MANUEUVER BY THE U.S. NAVY IN 20TH CENTURY BLUE-WATER OPERATIONS: SELECTED HISTORICAL EXAMPLES

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

MATTHEW J. KOHLER, LCDR, USN
M.S., United States Naval Postgraduate School, 1989
B.S., Indiana University of Pennsylvania, 1983

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Maneuver in land warfare has been the subject of much study in modern times. The U.S. Army and the U.S. Marine Corps in particular have devoted considerable emphasis to its study and examination as evidenced by the volumes of material produced on the subject. As a result, both of these services, as well as the U.S. Air Force, have incorporated maneuver in their respective warfighting doctrines. However, the U.S. Navy has only relatively recently began to develop a formal doctrine. Although the U.S. Navy has always used a doctrine, it has mainly existed in an informal, unwritten form. With recent efforts to formalize its doctrine, the U.S. Navy must, among other things, articulate warfighting concepts. A critical concept that requires exploration is blue-water naval maneuver. This thesis used two case studies to examine the use of blue-water naval maneuver at the strategic and operational levels, in combat and noncombat environments. This thesis showed that naval maneuver is an effective technique in modern warfare and should be emphasized as a viable method of warfare in emerging U.S. Navy doctrine.

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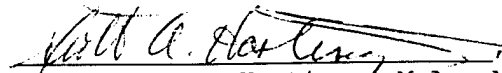
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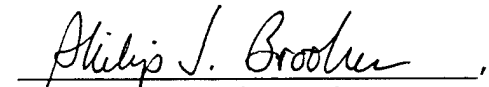
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ABSTRACT

MANUEUVER BY THE U.S. NAVY IN 20TH CENTURY BLUE-WATER OPERATIONS: SELECTED HISTORICAL EXAMPLES by LCDR Matthew J. Kohler, 110 pages.

Maneuver in land warfare has been the subject of much study in modern times. The U.S. Army and U.S. Marine Corps in particular have devoted considerable emphasis to the examination of maneuver, as evidenced by the volumes of material produced on the subject. As a result, both of these services, as well as the U.S. Air Force, have incorporated maneuver in their respective warfighting doctrines. However, the U.S. Navy has only relatively recently began to develop a formal doctrine. Although the U.S. Navy has always used a doctrine, it has mainly existed in an informal, unwritten form. With recent efforts to formalize its doctrine, the U.S. Navy must, among other things, articulate warfighting concepts. A critical concept that requires exploration is blue-water naval maneuver. This thesis used two case studies to examine the use of blue-water naval maneuver at the strategic and operational levels, in combat and noncombat environments. This thesis showed that naval maneuver is an effective technique in modern naval warfare and should be emphasized as a viable method of warfare in emerging U.S. Navy doctrine.

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Most importantly, my inexpressible thanks to my wife Melanie, and our children, Rachel and Max, for their love, support, and understanding. This thesis is equally theirs.

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CHAPTER ONE

INTRODUCTION

Topic

This thesis will investigate, through historical examples, the use of maneuver warfare in American naval operations in a blue-water environment. This thesis will use blue-water in the context of naval operations that are nonamphibious in nature. The primary focus of this thesis is on maneuver, including its definition in a naval context, how it functions as an element of doctrine and how it has been used by the U.S. Navy. Much has been written on the subject of maneuver; however, the focus of study has primarily been on its use in land warfare. The U.S. Army in particular has strongly embraced the use of maneuver and has heavily incorporated it into its doctrine. The U.S. Marine Corps has conducted extensive study of naval maneuver; however, the scope of its investigation has been limited to amphibious naval operations. A relative void exists in the study of naval maneuver in a blue-water context. Correspondingly, this thesis will investigate the concept of maneuver in blue-water (non-amphibious) naval operations.

Purpose

The application of maneuver in land warfare has been the subject of much study. This is evidenced by the volumes of material on the subject by the U.S. Army and U.S. Marine Corps in particular. Maneuver is also rooted in concepts put forth by such notable theoreticians as Alfred T. Mahan, Antoine-Henri Jomini, and Julian S. Corbett. Maneuver

in land warfare is defined as a principle of war by the American armed services and is internationally recognized as an important element in war planning and execution. Such a critical land warfare concept requires equally extensive study of its value in naval warfare.

Maneuver is tightly linked to doctrine, which provides a framework for its use, as well as all of the principles of war. The U.S. armed services have heavily stressed doctrine for well over a decade, as reflected by its emphasis in field manuals, operations planning and execution, and full implementation into military school houses. The exception to this is the U.S. Navy, which has only recently begun to come to grips with the importance of written doctrine. The U.S. Navy has always had doctrine, but it has primarily existed on an informal, nonwritten basis. Lieutenant Commander Dudley Knox, USN, recognized as far back as 1915 that the U.S. Navy never formally attempted to impart a doctrine to any of its officers.[1] Because of this, naval maneuver has likewise only existed as an implied concept. Correspondingly, this thesis will stress the need for a formal U.S. naval doctrine as an important framework for naval maneuver.

The primary intent of this thesis is to define maneuver as an effective instrument in blue-water naval warfare. A secondary intent of this investigation is to support the U.S. Navy's fledgling development of a formal doctrine. Governmental mandates for greater service interoperability highlight the requirement for a written and uniformly understood U.S. naval doctrine. Lack of such a doctrine will increasingly inhibit the U.S. Navy's ability to effectively function in a joint warfighting arena. This shortcoming will become ever more vital as U.S. Navy officers increasingly interact with their doctrinal-based sister services, while the latter look towards the U.S. Navy's doctrine to determine how it fights. It is hoped that through thorough

investigation of naval maneuver, one piece of the doctrinal puzzle will be more clearly understood by U.S. Navy officers.

Scope

The purpose of this thesis, as discussed above, is to fully explore the use of maneuver in a blue-water (nonamphibious) environment. Ultimately, it is hoped that through this investigation, maneuver as an aspect of American naval doctrine will be more fully understood. Historical example will be the primary method used to explore naval maneuver. Because the secondary goal of this thesis is the promotion of U.S. Navy doctrine development, the scope of historical examples used will be limited to American naval operations. Correspondingly, the scope of historical examples will be limited to operations during the twentieth century. It is hoped that selection of relatively modern historical examples will more clearly reflect the applicability of naval maneuver in current operations.

For the purpose of this thesis, blue-water will refer to non-amphibious operations. Blue-water operations refer to classic engagements between exclusively naval air, surface and sub-surface forces. Blue-water naval maneuver will be historically examined at a strategic level, exploring how it has been used to achieve national objectives. Naval maneuver will also be discussed at the operational level, investigating the use of maneuver at a theater or fleet level. Because of the limited scope of this thesis, tactical level naval maneuver will not be discussed, but will be recommended as an area for further research.

Although this thesis will focus on U.S. Navy historical examples, there will be no restrictions with respect to nationality when exploring the concept of maneuver. Various concepts of maneuver will be

used from military theoreticians from different time periods and countries. Correspondingly, this thesis will also incorporate the works of such classical military thinkers as Mahan and Jomini as they relate to maneuver.

Methodology

This thesis will follow a rational process to fully explore naval maneuver. Chapter two will discuss doctrine as a framework that supports the concept and employment of maneuver. To explore this concept, the historical evolution of doctrine within the U.S. Navy will be investigated, as well as its current use. Various sources will be used to support study in this area including the U.S. Navy's first doctrinal publication: Naval Doctrine Publication 1.[2] Dr. James Tritten of the Naval Doctrine Command will be used extensively in describing the current state of U.S. Navy doctrine. Major Teddy Cranford, USA has written a thesis on developing U.S. Navy doctrine for the twenty-first century. His work will also be used to discuss the evolution of naval doctrine and how it supports the concept of naval maneuver.

Chapter two's discussion of doctrine will provide the basis for the primary focus of this thesis: naval maneuver. Chapter three will be devoted to the exploration and definition of maneuver and will provide framework for studying historical examples of naval maneuver in subsequent chapters. Maneuver will first be addressed in terms of its definition by the U.S. Navy's sister services. U.S. Army, Air Force, and Marine Corps field manuals will be the primary sources for these definitions. Maneuver will be discussed in terms of its use in strategic and operational levels of war. These distinctions will be used in the study of subsequent historical examples.

The works of many classical warfare theoreticians will be used to develop a complete understanding of naval maneuver. The works of Mahan will be used, particularly with respect to his strategic concepts of naval warfare, including commerce raiding. Particular use will be made of the works of Admiral Raoul Castex, an interwar French naval theoretician, whose writings provide unique insight to aspects of strategic and operational naval maneuver. The ideas of Dr. Tritten will also be used to explore naval maneuver, as well as other theoreticians as appropriate.

An examination of naval maneuver will provide the basis for selecting and studying historical examples of naval maneuver. Only examples of U.S. Navy operations will be used, with a bias towards operations from World War Two to the present. Because the purpose of this thesis is to explore the use of maneuver and not to provide a historical account of an engagement, selected examples will be described only to the extent necessary to support identification and study of the use of maneuver in that operation.

The first historical example to be examined will be the Battle of Midway. The battle was chosen because it allows for potential examination of naval maneuver at the strategic and operational levels of war. Midway was a highly significant operational-level battle that also affected strategic considerations of the war. The battle also clearly established the aircraft carrier as the preeminent platform in naval warfare and hence placed it as the principle element in naval maneuver that still holds true today. Various elements of naval warfare in the Battle of Midway will be studied to measure their influence and use in naval maneuver.

A second historical example to be used will be the Cuban Missile Crisis of 1962. The U.S. Navy played a significant role in determining

the outcome of the incident, and this thesis will explore if maneuver was a significant factor in this American triumph. This case study will be used to examine naval maneuver at the strategic level in a noncombat environment. This analysis will also question why Kennedy chose to implement a naval blockade, or quarantine, and how this represented naval maneuver. This study will also discuss the Soviet Union as the opposing protagonist in the crisis and how it was effected by Kennedy's quarantine.

Before these historical examples can be investigated, the concept of naval maneuver must first be developed. The following chapter will discuss doctrine, how it exists in the U.S. Navy today, and how it relates to naval maneuver. The chapter following discussion on doctrine will be devoted to exploring and defining the concept of naval maneuver. Once naval maneuver has been discussed, the Battle of Midway and the Cuban Missile Crisis will be analyzed in separate chapters as examples of blue-water naval maneuver. This thesis will conclude with a chapter drawing together the concepts of naval maneuver revealed through study and exploration.

Endnotes

[1]Dudley W. Knox, "The Role of Doctrine in Naval Warfare," (Annapolis, MD: U.S. Naval Institute Proceedings, April, 1915) excerpt reprinted in U.S. Army Command and General Staff College, C610 Syllabus/Book of Readings (Fort Leavenworth: USACGSC, July,1992), 194.

[2]U.S. Navy, Naval Doctrine Publication 1 (Washington, D.C.: U.S. Government Printing Office, March 1994).

CHAPTER TWO

DOCTRINE

Introduction

The importance of doctrine with respect to maneuver was discussed in chapter one. Because doctrine provides a framework for maneuver and enhances its application, a complete discussion of doctrine is required. Correspondingly, this chapter will define the concept of doctrine, explore how the U.S. Navy has historically used doctrine, and discuss the current status of doctrine in the U.S. Navy.

What is Doctrine?

A modern military force consists of manpower and a variety of weapons systems driven toward a common goal or mission. Obviously this is not a complete description. What is lacking is a definition of a force that will coordinate and direct weapons and manpower to achieve an expected endstate. Without such an integrating effort, a military force ceases to be a potent phenomenon. Leadership, or command and control, provides the coordination of effort and maximizes the fighting effectiveness of a military force. Leadership provides specific directives, objectives, and coordination for the purpose of directing fighting elements towards a defined endstate. How leadership directs, positions, moves, and engages a military force is a constantly evolving methodology, commonly referred to as tactics at its most basic level. Tactics is both a science and an art. The science of tactics include the application of definable variables available to a commander, which

set parameters for planning and execution. Definable variables include number and capabilities of weapon systems, ammunition and fuel inventories, and time-distance factors. The art of tactics maximizes the application of combat elements to optimally achieve a specific objective. Examples of tactical art include devising the appropriate mix and employment of combat elements or deciding on a particular type of offensive maneuver, such as envelopment. The requirement for judgment in the orchestration of various combat elements to achieve an objective elevate tactics from a science to an art form.

Although tactics is certainly critical to the conduct of warfare, there exists an even higher order, one that provides a framework for tactics and assists in providing a commonality of methods used by military forces. This higher order is a military doctrine. The Naval Doctrine Publication states that doctrine, "is not a set of concrete rules, but rather a basis of common understanding throughout a chain of command."[1] Doctrine is a guide for describing how a military will conduct warfare and often generally prescribes how the principles of war should be applied in conducting operations. Doctrine provides guidance or methods that have been proven over time to increase the likelihood of success in combat. A doctrine facilitates an understanding among a military's leadership, reducing the requirement for extensively detailed orders and directives. Doctrine assists in establishing a common ethos of a military, and according the U.S. Army's manual, Operations (FM 100-5), "sets the direction for modernization and the standardization for leadership development and training."[2] A doctrine articulates a military organization's reason for being and ultimately drives a military toward readiness.

Lieutenant Commander Dudley Knox, U.S. Navy, compared the military to a business, highlighting the common need for efficient

organization and clear communications in respective chains of command. However, due to the rapidly changing environment and usual lack of opportunity for immediate communications in battle, Knox maintained that military leaders, "must frequently act on their own initiative in anticipation of the desires of higher authority."[3] Certainly the desires of higher authority can be articulated prior to, and during, hostilities; however, interpretation of commander's orders and intent by subordinates must be uniform to preserve unity of effort and maintain an effective fighting force. Knox stated that such a unity of effort is not possible in the heat of battle, "unless there exists a bond of highly developed mutual understanding and common conviction"[4] among the leadership of a given operation. Knox further maintained that a bond of understanding would be formed through the process of studying the art of war and by training in wargames and simulated maneuvers; however, a much deeper and more comprehensive understanding was required before such a bond could function under the stress of battle. In identifying this comprehensive understanding Knox stated: "It [common understanding] is recognized as a necessity in principal foreign military organizations, and they attempt to supply the deficiency [of a common understanding] through what has been termed 'doctrine'."[5] In expressing the importance of doctrine, Commander Schofield, U.S. Navy, stated that, "where the stress of events forbid the actual interchange of ideas, when the need is most felt, there must be a governing idea to which every situation may be referred and from which there may be derived a sound course of action."[6] This governing idea reduces a combat force's reliance on continuous directive by higher authority, thereby enhancing initiative and effectiveness in battle.

Vice Admiral Fitzhugh Lee, U.S. Navy, who commanded an aircraft carrier in World War Two, claimed that an informal doctrine existed

among U.S. Naval Academy graduates during the war, that greatly enhanced the U.S. Navy's warfighting capability in the Pacific theater. Admiral Lee believed that Academy graduates had a familiarity that facilitated easier communication and instinctual understanding of wartime operations orders. Admiral Lee also claimed that this corps of similarly indoctrinated Naval Academy officers facilitated the success of the U.S. Navy during the periods of great expansion during World Wars One and Two.[7] What Admiral Lee described as familiarity and instinctual understanding constitutes doctrine. This doctrine was not explicit, but was developed through intensive years of study and shared experiences at the U.S. Naval Academy and subsequent peacetime years of professional interaction.

A common doctrine within a military is required to not only allow subordinate commanders to assert initiative and exploit opportunities in the absence of command directive, but also to allow subordinates to function as if the commander was physically present.

U.S. Navy Doctrine

The U.S. Navy has arguably always had a doctrine; however, strategic and operational level naval doctrine has existed only on an informal basis. The U.S. Navy does maintain a written doctrine at the tactical level. This exists in the form of the Naval Warfare Publication Library (NWPL), which provides guidance on tactics, techniques, and procedures for employing shipboard weapon systems.

Dr. Tritten argues that the U.S. Navy doctrine at the operational and strategic level relies on an informal system of commander's intent and fleet instructions.[8] Obviously, the U.S. Navy has been able to function with this system for many decades; however, the informal nature of U.S. naval doctrine has inhibited its

standardization, particularly between coasts (east and west coasts). This informal doctrine has also left its sister services with no reference from which to understand how the U.S. Navy intends to function in a joint environment.

Major Teddy Cranford, U.S. Army, contends that the U.S. Navy's current doctrinal situation resembles that of the U.S. Army following the Vietnam War. Through the Vietnam War, the U.S. Army formulated its warfighting methodology based on lessons learned on the battlefields of Southeast Asia. Cranford maintains that the end of the Vietnam War and the coincident shift to an all-volunteer U.S. military in 1973 combined to leave the U.S. Army in such a turmoil that it was in danger of losing its institutional identity and purpose. To counter this, the U.S. Army began to develop a doctrine that shifted its focus towards mechanized/armor warfare based on a European battlefield environment. FM 100-5, Operations, promulgated in 1976, was the Army's first step in the process towards formal doctrinal development.[9]

Major Cranford maintains that the U.S. Navy faced a similar situation in 1991. From World War Two to the late 1980s the U.S. Navy focused on its primary threat: the Soviet Navy. For over 40 years, U.S. naval leadership derived its experience from this threat. The demise of the Soviet Union and subsequent evaporation of its primary threat left the U.S. Navy the undisputed master of the seas. However, it also left the Navy without a primary adversary and no operational or strategic doctrine with which to refocus its efforts into the twenty-first century. The 1986 Goldwater-Nichols DOD Reorganization Act, which mandated the requirement for joint operations, also highlighted the U.S. Navy's lack of formal doctrine, as other services sought to understand how the U.S. Navy intended to do business.

Cranford argues that the U.S. Navy responded to these challenges by adopting a similar strategy used by the U.S. Army in 1973.[10] In 1992, the secretary of the navy took the first step in formalizing U.S. Navy doctrine by publishing "... From the Sea" and later, "Forward... From the Sea." These documents demonstrated the U.S. Navy's shift in focus from a blue-water threat toward the littoral. The chief of naval operations also established the Naval Doctrine Command with a mission to continue the process of formalizing the U.S. Navy's operational and strategic doctrine. This command promulgated the first formal doctrine publication, Naval Doctrine Publication 1: Naval Warfare, in 1994.

Conclusion

Doctrine is not inherently restrictive in nature. Quite the contrary, it can allow for subordinate commanders to freely execute their initiative and capitalize on enemy weaknesses without the requirement to communicate with higher authority. A clearly and uniformly understood doctrine facilitates an unambiguous understanding of the commander's desires and intent. Doctrine promotes unity of effort by increasing the likelihood that subordinates will act as an extension of the commander without his explicit direction.

The U.S. Navy has always had a doctrine, which has existed primarily on an informal basis. The removal of the U.S. Navy's primary threat, the Soviet Navy, left the U.S. Navy as the undisputed master of the seas; however, it was also left without a threat or formal doctrine to maintain its focus. The recent establishment of the Naval Doctrine Command and promulgation of a doctrine has provided a focus for the U.S. Navy into the twenty-first century.

This thesis will promote the development of a formal U.S. naval doctrine by exploring naval maneuver warfare as one of its primary

tenants. Naval maneuver will be the subject of the next chapter, followed by historical examples of the use of maneuver in modern U.S. naval operations. Historical examples of naval maneuver will be used to assist in defining the concept, to assist in the internalization of the concept by U.S. naval officers, and to highlight its importance as a doctrinal tool.

Endnotes

[1]U.S. Navy, Naval Doctrine Publication 1 (Washington, D.C.: U.S. Government Printing Office, March 1994), 51.

[2]U.S. Army, FM 100-5, Operations (Washington, D.C.: U.S. Government Printing Office, June 1993), 1-1.

[3]Dudley W. Knox, "The Role of Doctrine in Naval Warfare," (Annapolis, MD: U.S. Naval Institute Proceedings, April, 1915) excerpt reprinted in U.S. Army Command and General Staff College, C610 Syllabus/Book of Readings (Fort Leavenworth: USACGSC, July, 1992),190.

[4]Ibid., 193.

[5]Ibid.

[6]Ibid.

[7]Vice Admiral Fitzhugh Lee, Reminiscences of Vice Admiral Fitzhugh Lee, USN Ret (Annapolis, MD: Naval Institute Press, 1972), 8-10.

[8]James J. Tritten, "Lessons and Conclusions From the History of Navy and Military Doctrinal Development," (Norfolk VA: U.S. Naval Doctrine Commnad, 1995), 2.

[9]Ted Cranford, "A Methodology for Developing U.S. Naval Doctrine for the 21st Century," (Ft Leavenworth KS, U.S. Army Command and General Staff College, 1995), 3.

[10]Ibid., 5.

CHAPTER THREE

MANEUVER

Introduction

This chapter will investigate and define maneuver as it will be used in this thesis. Much has been written on the subject of maneuver, particularly on its use in land and amphibious warfare. It has been identified as a principle of war, a dynamic of combat power, and a "style of warfare."[1] In terms of land warfare it is widely used to describe maximizing use of firepower as well as in reference to combat units. Maneuver has been used in the context of directly engaging the enemy and also as a means to conserve combat power by avoiding directly engaging an enemy's strength. Maneuver can also be defined in a strategic, operational, or tactical context.

This chapter will address the broad concept of maneuver in the following manner. Maneuver will first be discussed in terms of how it is defined and applied in current U.S. armed forces field and operating manuals. Where appropriate, distinctions between military services will be highlighted and contrasted. Following this, maneuver will be studied from the viewpoint of classical and current thinkers on the subject including Antoine Jomini and A. T. Mahan. During this discussion, maneuver will be discussed from a naval point of view.

According to Dr. James Tritten, Admiral Raoul Castex, a mid-twentieth century French naval warfare theoretician, provides "the only major source of maneuver warfare doctrine that parallels thoughts of maneuverists ashore."[2] Castex's views on naval "*manoeuvre*" will be

included when appropriate. Finally, the current writings on naval maneuver by Tritten will be used to further examine the topic. The conclusion of this chapter will summarize the concept of naval maneuver on how it will be used in this thesis.

What is Maneuver?

The concept of maneuver has been widely adopted within U.S. armed forces as evidenced by its explicit inclusion in service and joint doctrine and field manuals. The importance of maneuver in U.S. Army doctrine is highlighted by the multiple uses of the term: maneuver is a dynamic of combat power, a combat function, and also a principle of war. The U.S. Army manual, Operations (FM 100-5), defines maneuver as placing "the enemy in a position of disadvantage through the flexible application of firepower."[3] U.S. Army doctrine emphasizes maneuver as a means to keep the enemy off balance and to exploit success. It also refers to maneuver as a "means by which the commander determines where and when to fight by setting the terms of battle."[4] The U.S. Army uses maneuver to emphasize its doctrinal use of the offense as the preferred method of warfare. Maneuver in this context is used to confuse and overwhelm the enemy. However, the U.S. Army also emphasizes maneuver in terms of a mobile defense. FM 100-5 further defines maneuver as an element of combat power as, "the movement of combat forces to gain positional advantage, in order to deliver - or threaten delivery of - direct or indirect fires."[5] Application of force is an essential theme in U.S. Army maneuver. FM 100-5 states that maneuver is "rarely effective without firepower and protection."[6] The emphasis on the use of force in U.S. Army maneuver is made apparent in its labeling of particular combat units (those that maximize mobility and firepower) as

maneuver units. These maneuver units include armor, mechanized infantry, and aviation.

The U.S. Marine Corps (USMC) is also doctrinally concerned with destroying an enemy through maneuver; however, because of its unique mission and lighter force structure, it defines maneuver slightly differently. In addition to the U.S. Army definition of the term, U.S. Marine Corps doctrine emphasizes maneuver in the dimension of time to gain a temporal as well as positional advantage over the enemy. U.S. Marine Corps' maneuver attempts to present the enemy with a series of events to which he must react in ever increasing rapidity, until he can no longer cope. Similar to the U.S. Army, U.S. Marine Corps' maneuver emphasizes initiative to effect a series of violent offensive actions to overwhelm the enemy. The focus of U.S. Marine Corps maneuver is the enemy's cohesion -- to destroy an enemy's ability to fight as a coordinated whole. According the U.S. Marine Corps FMFM-1, "The aim in maneuver warfare is to render the enemy incapable of resisting by shattering his moral and physical cohesion . . . rather than to destroy him physically through incremental attrition."[7] This definition is not meant to de-emphasize firepower. Quite the contrary, U.S. Marine Corps' doctrinal maneuver clearly states that selective firepower is essential to the ability to maneuver. Because the key target of U.S. Marine Corps' maneuver is the moral dislocation of the enemy, efforts are focused on critical enemy weaknesses that will cause greatest damage to the enemy's will to fight. Although the U.S. Marine Corps and U.S. Army differ slightly in their definition of maneuver, both emphasize application of force.

The U.S. Air Force has also incorporated maneuver into its doctrine; however, the distinct nature of air warfare has resulted in an expanded use of the concept. Similar to previous definitions, the U.S.

Air Force doctrinally uses maneuver to place the enemy in a position of disadvantage through use of combat power. The U.S. Air Force doctrine (AFM 1-1) diverges from this common concept by recognizing that maneuver, "requires not only fire and movement, but also flexibility of thought, plans and operations . . . and is the means by which the commander sets the terms for battle, declines battle, or acts to take advantage of tactical situations"[8] at all levels of war. The first key distinction is recognizing that maneuver involves more than just firepower and movement. It involves a thought process that requires command functions to identify an enemy's key weaknesses, then choosing the proper combination of mass and economy of force to achieve the desired result. By its doctrinal definition, the U.S. Air Force recognizes that maneuver may not involve engaging the enemy at all. This highlights a key aspect to maneuver: engage the enemy only on favorable terms. Although this is implied by avoiding engaging an enemy's strength, the benefit of declining combat is an important factor in maneuver that may be deemphasized in a heavily offense-oriented doctrine.

The U.S. Air Force introduced another concept that is intricately involved with maneuver. The concept evolved separately from maneuver, but highlights how maneuver can be used to defeat an enemy without direct application of force. John Boyd developed the idea of a time-competitive process, consisting of observation-orientation-decision-action (OODA) cycles after studying air-to-air engagements in the Korean War.[9] Boyd maintains that party "A" and party "B" both enter into an engagement in an observation mode. Both parties then attempt to orient to the problem, make a decision based on the orientation, act on the decision, and then begin the process over by observing the result of the action. Boyd argued that if party "A's" OODA cycle were shorter

than party 'B's, it would render party "B's" actions irrelevant. This occurs because by the time party "B" reacts to party "A," party "A" has already acted again. The cycle, or loop, continues with party "B" acting (or reacting) more slowly through each cycle, until his thought or command processes becomes paralyzed. Thus Boyd's OODA loops are clearly an example of maneuver that seeks to confuse and overwhelm an enemy through presentation of a rapid series of events, forcing him to react and to prevent him from regaining the initiative. Though certainly the end result of Boyd's OODA loop is to apply firepower from a position of advantage, Boyd's concept of maneuver diverges from U.S. Army and U.S. Marine Corps' emphasis on firepower.

The U.S. Navy defines maneuver in less concrete terms compared to the U.S. Army, Air Force, or Marine Corps. Similar to other services' doctrines, the U.S. Navy, through maneuver, seeks to engage an enemy from a position of advantage. However, the U.S. Navy's Naval Doctrine Publication defines maneuver by contrasting it to attrition warfare and describing it in terms of an "approach rather than a recipe . . . that is characterized by adaptability . . . not limited to particular environment."[10]

The U.S. Navy's definition of maneuver is less well defined compared to its sister services, mainly because of its comparatively recent arrival in the realm of a written doctrine. Land and amphibious maneuver in U.S. military doctrine has been the subject of writings and discussion for decades and is a concept that has been tested on the battlefield. Although naval maneuver has been used by the U.S. Navy since its inception, lack of a formal, written doctrine has limited its detailed study or consideration in professional circles. A complete definition of naval maneuver will be provided in the conclusion of this chapter.

Center of Gravity

A key element of maneuver is the concept of center of gravity. FM 100-5 (and echoed in Joint Publication 3-0) defines center of gravity as "the characteristic, capability, or location from which enemy and friendly forces derive their freedom of action, physical strength or will to fight."[11] Traditional centers of gravity include the mass of the enemy's army, its command and control structure, or an element of the enemy's army, such as its artillery or armor. A center of gravity can also be less tangible, such as an army's fighting ethos, national will, or alliances. In naval warfare, examples of centers of gravity include naval platforms, around which a fleet is formed, such as battleships or aircraft carriers, or lines of communications from overseas bases. Geographic position can also be a center of gravity in naval warfare. Examples include choke point control, such as the Strait of Hormuz or the Skaw; ability to control sea lines of communications, exhibited by the U.S. Navy during the Cuban missile crisis in 1962; and the logistical/indirect influence of overseas naval bases, such as Japan and Bahrain, for the U.S. Navy.

It is important to note that though a center of gravity is a source of strength, it can also be perceived as a vulnerability, or a potential target by an attacker. It is from this perspective that center of gravity becomes a critical element of maneuver warfare. The goal of maneuver warfare is defeating the enemy not by placing strength on strength but by massing effort at a critical point to maximize effect and neutralize the enemy's will to fight. Maneuver warfare concentrates efforts against an enemy's center of gravity, rather than against the enemy forces as a whole. Identifying an enemy's center of gravity is

the first step in maneuver warfare. It sets an objective from which planning and eventual courses of action are developed.

An enemy's center of gravity can vary within the context of a particular level of war. These levels of war are: strategic, which concerns national interests or goals; operational, which concerns theater warfighting; and tactical, which concerns unit engagements. An example of a strategic center of gravity during Desert Storm was the Iraqi Army. The Iraqi's operational center of gravity was the Republican Guard, upon which its strategic center of gravity depended. Because center of gravity is an essential part of maneuver, it will be used as a tool to analyze naval maneuver in historical examples in subsequent chapters.

Strategic, Operational, and Tactical Maneuver

Naval maneuver can be discussed in the context of all three levels of war. At the strategic level of war, military capabilities are used in conjunction with other elements of national power (diplomatic, informational, and economic) to achieve national-level goals. The operational level of war is concerned with the conduct of campaigns and major operations within a given theater in support of an overall strategy. Tactical level warfare concerns the fighting of battles or unit engagements.

Naval maneuver at the strategic level reflects how national level leadership decides on how to employ its naval forces. Examples of the spectrum of naval maneuver in a strategic context include blockades or sanctions, weighting a theater through interfleet transfers, or adopting commerce raiding as a method of warfare. The use of the U.S. Navy to blockade Confederate ports in the Civil War and the naval blockade of Cuba in 1962 are examples of strategic naval maneuver. In

both instances, relative lack of naval combat power by the Confederate or Cuban/Soviet navies proved to be a critical weakness against which maneuver was used. Because of the relative weakness of the U.S. Navy compared to the British Royal Navy at the turn of the ninetenth century, the U.S. Navy was compelled to adopt a strategy of commerce raiding during the American Revolutionary War and War of 1812. The fledgling U.S. Navy at the time could not hope to attack England's center of gravity: its navy. The revolutionary leadership instead chose to attack England's will to fight by adopting commerce raiding, thus applying the revolutionary navy's strength against England's relative weakness.

Naval maneuver at the operational level of war reflects theater goals. Operational naval maneuver is concerned with conducting campaigns or major operations using a fleet. An example of naval maneuver at the operational level was the Battle of Midway. U.S. naval forces were greatly outnumbered by Japanese naval forces in this battle. Fighting with attrition style tactics would have resulted in a Japanese victory, and a serious setback for U.S. Pacific theater operations, as well as overall U.S. strategy. U.S. naval forces at the Battle of Midway used naval maneuver to inflict maximum damage upon the enemy, while simultaneously protecting its own critical assets. Though often described as attrition warfare, the use of U.S. Navy submarines to attack Japanese merchant shipping in World War II is also an example of naval maneuver. Certainly the long-term effects of this strategy was attrition of Imperial Japans sustainment capability; however, the U.S. Navy was used in a maneuver role that targeted Japans center of gravity. This center of gravity was the Japanese Empire's dependence on external sources for its war materials as well as the requirement to resupply its far-flung territories, bases, and garrisons. Operational (theater)

maneuver targeted U.S. Navy submarines against this center of gravity, against which Japan had little defense.

Naval maneuver at the tactical level of war concerns specific battles or a series of engagements. Though naval maneuver is no less important at the tactical level of war, it will not be included in the scope of this thesis. As stated earlier, unlike at the strategic and operational level, the U.S. Navy has developed written tactics, techniques, and procedures (TTPs) in the form of shipborne weapons employment, etc., that comprise a tactical-level doctrine. For this reason, this thesis will concentrate on the comparative void of strategic and operational U.S. Naval doctrine.

Naval Maneuver Discussion

Napoleon's successes stemmed in part from his effective use of maneuver on the battlefield. He understood the psychological effect of a properly timed execution of mass and firepower. Steven Ross stated that Napoleon used rapid slashing maneuvers that threatened an enemy's communications and threw them off balance.[12] Similar to the U.S. Marine Corps definition of maneuver, Napoleon retained the initiative to present the enemy with a series of rapidly and ruthlessly executed maneuvers, that precluded the enemy's ability to gather their force or regain their senses. Napoleon typically struck at the enemy's fighting cohesiveness as its center of gravity. Usually this meant rapid application of mass and firepower as shock effect against the troops on the field, as well as enemy leadership. Perhaps Napoleon's greatest ability was to sense an enemy's center of gravity at the correct time and place to rapidly strike and maximize shock effect.

Antoine-Henri Jomini was a military theorist at the turn of the eighteenth century, who was heavily influenced by Napoleonic warfare.

In his search to explain the spectacular victories by revolutionary French armies, Jomini developed a set of principles of war, that he maintained were guides to successful warfare, but not infallible precepts. As related by John Shy, Jomini embraced maneuver as one of his principles by using the strength of an army to threaten an enemy's decisive points. Jomini defined a decisive point as a point whose attack or capture would imperil or seriously weaken the enemy. According to Jomini, enemy flanks and supply lines were almost always decisive points. Jomini believed that all available force should be massed against these decisive points. Jomini further maintained that the concept of maneuvering against a decisive point could be applied differently, based on the size or goal of war, but the basic principle never changed.[13] Key Jominian points regarding maneuver are identification of a decisive point, orienting forces towards this decisive point, and use of overwhelming mass. Jomini's definition of maneuver and decisive point parallel very closely the modern interpretation of maneuver and center of gravity. In a war with limited objectives or small scale engagements, Jomini's decisive point could be a center of gravity; however, in a larger engagement, Jomini's decisive points more closely reflect intermediate goals towards a center of gravity. Jomini's principles eventually influenced future military theoreticians, including naval strategist A. T. Mahan.

Mahan rose to prominence as a naval theoretician in the late 1800's by formulating a naval strategy that drew largely from Jomini. More specifically, Russell Weigley maintained that Mahan developed his principles of naval strategy based on Jomini's works. The Jominian principle most strongly emphasized by Mahan was the importance of lines of communication. Mahan believed the greatest benefit seapower was sea lines of communication, which were the single most important element in

national power and strategy. The purpose of a navy, therefore, was to command the sea to protect its lines of communication. Again drawing from Jomini, Mahan maintained that to achieve command of the sea required defeat of the enemy fleet. To defeat the enemy fleet required that the greatest possible concentration of forces, another Jominian principle, be thrown against an enemy's vital points.[14] Mahan's strategy of applying concentration of force against an enemy weakness closely reflects the concept of maneuver. He identified a center of gravity as the enemy fleet, and emphasized concentration of force to be used against an enemy vulnerability. However, Mahan's strategy remained too narrowly focused to be considered truly maneuver in concept. Weigley points out that Mahan's description of an enemy's center of gravity remained its fleet in all cases.[15] Even though Mahan realized the vulnerability of sea lines of communications and warned of the danger of dividing the fleet, the enemy fleet remained the center of gravity. Mahan remained so fixated on the enemy fleet as the center of gravity, that he neglected any serious attention to the interdependence of armies and navies in wartime, and remained dubious as to the efficacy of amphibious operations. Mahan did discuss commerce raiding as a method of naval warfare, but claimed it alone could not win command of the sea, and therefore should not be emphasized. Maneuver warfare requires much greater flexibility than Mahan's principles to be effective. It requires each event be analyzed to determine a center of gravity, as well as the forces required to achieve the desired result. If Mahan had truly embraced maneuver warfare, he would have recognized the importance of amphibious warfare and the value of combined army-navy operations at all levels of war. It also would have led him to an expanded definition of an enemy's center of gravity. Although Mahan's adaptation of land warfare principles to the maritime arena greatly

enhanced naval strategy, it took a Frenchman, Admiral Raoul Castex, to develop the naval equivalent to maneuver.

Admiral Castex rose to prominence in the French Navy between World War One and World War Two, and wrote a volume on the subject of naval "*manoeuvre.*" Castex developed his strategy for a navy that had no hope of challenging England for mastery of the seas. Instead Castex developed a strategy of *manoeuvre* that would allow a weaker navy to engage a more powerful opponent on favorable terms. Castex simply defined *manoeuvre* as "moving intelligently in order to create a favorable situation."[16] The first step in applying *manoeuvre* was to identify a principle objective, which Castex defined as an enemy's "center of power," or an asset if lost will compromise the outcome of the campaign.[17] It is on the principle object, which is virtually equivalent to the concept of center of gravity, that Castex maintained efforts must be concentrated. Castex's principle object differed greatly with Mahan's decisive point (the enemy's fleet); in that there was no general rule for choosing the object. It could be either a weak or strong point, as long as its fall would lead to a vital result. Castex's *manoeuvre* was unique, in that it acknowledged that the favorable situation that manoeuvre attempted to create supported a higher goal (either operational or strategic), that could be military, political or economic. The principle objective would naturally be driven by the desired goal. Although Mahan recognized the navy as a political as well as a military tool, his focus on the enemy as the sole center of gravity limited a navy's role to anything much other than a military force.

Similar to Mahan, Castex emphasized concentration of force, but acknowledged that available assets were finite. Because of this

reality, *manoeuvre* dictated an economy of force that prioritized assets toward the principle object, at the expense of secondary concerns. Castex identified several elements that were critical to *manoeuvre*, including initiative, intelligence, surprise and security. The very essence of *manoeuvre* required that the enemy not be permitted to dictate the terms of battle, but rather be forced to react to the situation presented to him. This required that the initiative be maintained throughout *manoeuvre*, either in the offense or defense. Maintaining the initiative required accurate intelligence on enemy positions and intentions, which was also critical in achieving surprise. Security of forces, provided by secondary forces supporting primary forces toward the principle object, permitted the freedom of action indispensable to *manoeuvre*.[18] Castex believed that *manoeuvre* was far from intuitive, and had to be learned. He believed the tendency was to attack the enemy where he was found and instinctively meet the enemy on terms presented at the moment. This tendency leads to attrition style engagements and precludes the opportunity for *manoeuvre*, because it eliminated flexibility of thought and planning that emphasizes maximum return for effort expended.

Dr. James Tritten, of the Naval Doctrine Command, stated that Castex's naval *manoeuvre*, as put forth in his Strategic Theory is the only published theory on naval maneuver that paralleled thoughts of maneuverists ashore.[19] Tritten used Castex's *manoeuvre* to develop the concept of naval maneuver in emerging U.S. Navy doctrine. True to Castex's theory on *manoeuvre*, Tritten's maneuver for the U.S. Navy strives to create favorable conditions for combat actions at sea that produces the greatest possible return for the effort expended. According to Tritten, naval maneuver constantly searches for ways to

strike the enemy where not expected to keep him constantly off balance, forcing him to react instead of act, and deny him the initiative. Naval maneuver generally requires that enemy forces not be engaged, unless it is necessary to the mission, and then only from a position of advantage. A key point emphasized by Tritten is that, although maneuver warfare is often contrasted with attrition warfare, maneuver warfare recognizes the utility of a decisive attrition style strike, that can permanently cripple an element of enemy force, such as its surface force. Maneuver warfare can then be employed to deal with remaining forces, when and where it is most advantageous. Maneuver warfare is also consistent with trends toward joint and combined warfare, because it requires identifying and using assets against which the enemy is most vulnerable. For example, if an opponent has insufficient air defense assets or an under-defended coastline, then a strategy emphasizing air and amphibious operations would likely be effective. Multi-service or multi-national forces bring unique capabilities that can be coordinated into a highly effective maneuver force. Similar to Castex, Tritten emphasizes maneuver in a security role, that provides protection of forces that can later be applied at a decisive time and place.

Dr. Tritten is currently using these concepts to integrate maneuver into emerging U.S. naval doctrine. This new doctrine should be incorporated as soon as possible into the U.S. Navy's educational system. The end result will be a written naval maneuver doctrine, rather than an informal understanding of the concept. This new doctrine will not dictate strategy or tactics, but guide naval officers into developing the best plans possible for exploiting enemy weakness, making maximum use of available assets, and produce the greatest results for effort expended.

Conclusion

Naval maneuver as defined in this thesis is placing an enemy in a position of disadvantage by intelligently using all available assets. Naval maneuver is equally applicable in combat and non-combat operations. It seeks to create advantage by confusing or overwhelming an enemy, gaining positional advantage, and striking at an enemy's center of gravity were practicable. Naval maneuver means fighting smarter rather than harder. Its natural by product is economy of force that is essential in today's environment of doing more with less. Naval maneuver avoids directly engaging an enemy's strength, but rather seeks to paralyze an enemy by identifying and neutralizing its center of gravity. Naval maneuver seeks to inflict maximum damage to the enemy, while minimizing damage to friendly forces. Although often contrasted with attrition warfare, maneuver incorporates its use as a method of warfare under favorable conditions. Maneuver warfare requires mental agility to determine identifying an enemy's center of gravity and developing a strategy that will make most effective use of available forces to neutralize this objective.

Naval maneuver is not simply movement, although movement of forces is often required. Maneuver does not always require the use of firepower, although often the overwhelming application of firepower is the end result of effective maneuver. Maneuver is choosing where and when to engage an enemy, as well as declining battle where the odds are not favorable. Naval maneuver is used at all levels of war, including strategic, operational and tactical, to confuse and overwhelm the enemy by getting inside the enemy's decision making process.

Many military theoreticians have emphasized aspects of maneuver warfare; however, only Admiral Raoul Castex sought to specifically adapt land warfare maneuver to the sea. Dr. James Tritten is adapting

Castex's theory into emerging U.S. naval doctrine. The next major step, as stated by Commander Knox at the turn of the century, is to integrate new U.S. naval doctrine into the professional educational system to allow the concept to be internalized by U.S. naval officers.

The following two chapters of this thesis will use naval maneuver to analyze how this concept has been historically used by the U.S. Navy. Examples of strategic and operational maneuver will be used to assist in identifying the efficacy of naval maneuver in a blue-water environment and to assist in elucidating the concept for doctrinal development. The first case study we will examine is the Battle of Midway, which will be used to study naval maneuver in combat operations.

Endnotes

[1]U.S. Navy, Naval Doctrine Publication 1 (Washington, D.C.: U.S. Government Printing Office, March 1994), 33.

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[3]U.S. Army, FM 100-5, Operations (Washington, D.C.: U.S. Government Printing Office, June 1993), 2-5.

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[5]Ibid., 2-10.

[6]Ibid.

[7]U.S. Marine Corps, FMFM-1, Warfighting (Washington, D.C.: U.S. Government Printing Office, March 1989), 58.

[8]U.S. Air Force, Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force (Washington, D.C.: U.S. Government Printing Office, March 1992), 12.

[9]Gary Hart, America Can Win (Bethesda, MD: Adler & Adler, 1986), 30.

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[11]FM 100-5, 6-7.

[12]Steven T. Ross, "Napoleon and Maneuver Warfare," (Washington, D.C.: Office of Air Force History, United States Air Force, 1988), 309-24; excerpt reprinted in U.S. Army Command and General Staff College, C610 Syllabus/Book of Readings (Fort Leavenworth KS: USACGSC, August, 1995), 130.

[13]John Shy, "Jomini", (article in Peter Paret's Makers of Modern Strategy (Princeton, New Jersey: Princeton University Press, 1986)), 154.

[14]Russell Weigley, The American Way of War (Bloomington, Indiana: Bloomington University Press: 1973), 174-175.

[15]Ibid., 175.

[16]Raoul Castex, Strategic Theories (Annapolis MD: Naval Institute Press: 1994), 102.

[17]Ibid., 102-103.

[18]Ibid., 110-114.

[19]Tritten, "Maneuver Warfare at Sea," 52.

CHAPTER FOUR

MANEUVER AT THE BATTLE OF MIDWAY

Introduction

This chapter will use the Battle of Midway as a case study to explore the concept of naval maneuver. This chapter will attempt to develop an understanding of the elements of maneuver used in the Battle of Midway and describe how they were employed in the conflict. Although many examples of tactical maneuver occurred in this battle, they will not be used except where they support operational and strategic naval maneuver.

This chapter will begin with the circumstances and events that influenced the Battle of Midway, most notably the raid on Pearl Harbor and the Battle of Coral Sea. As will be shown, many factors contributed to the American success at Midway. Some of these factors resulted from deliberate planning, others resulted largely from chance. In the process, however, key decisions and methods adopted by both sides combined to create conditions for a decisive American victory. This chapter will focus on these decisions and methods using elements of maneuver as criteria. These criteria, as discussed in chapter three, include assets available to respective commanders, mindsets of opposing leadership, strategies chosen, as well as other key decisions that enhanced or restricted opposing forces ability to maneuver at Midway.

Background -- The Pearl Harbor Raid

The raid on Pearl Harbor on December 7, 1942, is perhaps the most famous preemptive strike in modern warfare. The raid in and of itself is an excellent example of naval maneuver on the part of the Japanese. In conducting the attack, the Japanese boldly struck at the U.S. Navy's center of gravity for the Pacific. Pearl Harbor was critical to the American war effort as a forward base of operations that supported operations across an extremely large geographical area. It was also important because it held the majority of U.S. naval power in the Pacific.

According to Russell Weigley, the U.S. war plan "Orange" was developed following World War I, when it became clear that the Japanese would be the most likely adversary. Remarkably prescient, war plan "Orange" anticipated a scenario that began with desperate holding actions on distant island possessions, followed by a U.S. Navy battle force fighting its way across the Pacific to defeat Japan. The difficulty in executing the plan lay in the time it would take naval forces to relieve American outposts. The plan also suffered from a lack of forward bases to support taking the fight to the Japanese in the Western Pacific.[1] The naval base at Pearl Harbor was the primary American forward base in the theater and was therefore critical to supporting any effort against the Japanese. Highlighting its importance, the American had just completed reinforcing Pearl Harbor as the prospect of war with Japanese grew more likely. Clearly, this was a vital target for the Japanese. A successful strike against this facility would place the U.S. Navy on the defense for several months, giving the Japanese great latitude in consolidating their conquests in the western Pacific. The daring raid on Pearl Harbor proved to be a success for the Japanese in several aspects. It achieved its desired

result of placing the U.S. Pacific Fleet largely on the defensive for the first several months of the war and permitted the Japanese to achieve, what Mitsuo Fuchida claims was, Japan's strategic goal of securing oil reserves in the western Pacific.[2] The raid also served to reduce Japan's primary adversary, the U.S. Navy, from the dominant naval power in the Pacific to effectively a fleet-in-being in a matter of hours.

Prior to this attack, the U.S. Navy would have arguably used attrition style tactics where more equitable force ratios would have permitted taking one-for-one losses with the Japanese. Such a strategy would have been successful for the Americans in the long term, having an overwhelmingly superior industrial capacity and abundance of natural resources with which it could rapidly replaces wartime losses. Japan faced just the opposite circumstances. Although areas annexed in the opening months of the war, such as the oil rich Dutch East Indies, greatly increased its access to natural resources, its industrial capacity remained hopelessly out classed by the Americans. Furthermore, the criticality of these resources resulted in a strategic center of gravity for the Japanese: the security of the sea lines of communications that supported the war effort. These factors forced the Japanese to adopt maneuver warfare, because an attrition style strategy against the Americans would be certain to fail in the long run.

The raid on Pearl Harbor served two functions for the Japanese. First, it temporarily improved the force ratios for the first several months of the war. Second, it allowed the Japanese to consolidate a West Pacific empire and protect its newly won natural resources. The most immediate effect of this raid on the Americans was to force the U.S. Navy, like the Japanese, to adopt maneuver warfare. This is not to say that prior to Pearl Harbor the U.S. Navy would have needlessly

attrited its ships for the purpose of wearing down the Japanese. Rather, the effect of Pearl Harbor was to place the security of its forces at the top of the U.S. Navy's priority list. Lacking an equitable force ratio, U.S. Navy leadership was obliged to maximize the benefit of its operations while simultaneously minimizing the danger of exposing its numerically inferior forces. Such thinking was evident in the U.S. Navy's senior-level leadership and significantly affected operations in the opening months of World War II.

Japan's spectacular raid on Pearl Harbor failed in two areas. These failures would dictate elements of naval maneuver for the Pacific war, which would eventually prove to be fatal to the Japanese. Although the damage inflicted at Pearl Harbor was significant, the primary failure of the raid was the naval platforms missed during the attack: aircraft carriers and submarines. These platforms would prove to be critical in the coming months of the war, and would eventually influence the outcome of the war itself. Spared from the attack were the aircraft carriers Saratoga, on the U.S. west coast, and Lexington and Enterprise, which were delivering aircraft to Wake and Midway islands respectively during the raid. These carriers constituted the basic combat power at the Battle of Midway several months later. The U.S. Navy submarine force, including the submarines themselves and their support structures, was left largely untouched at Pearl Harbor. This oversight would prove to be a mistake for Japan, as U.S. Navy submarines, based largely out of Pearl Harbor, would cripple critical Japanese sea lines of communication. Fortunately for the Americans, it was just these weapons, the aircraft carrier and submarine, that would prove to be the dominant maneuver elements for naval warfare in the coming war. It is ironic that the Japanese succeeded in crippling only the American battleship fleet, which was proved obsolete by the very platform used to

conduct the raid: the aircraft carrier. While the raid heralded the arrival of the contemporary superiority of the aircraft carrier, it attacked yesterday's champion. In a sense, in conducting the raid, the Japanese assisted the U.S. Navy in clearing the internecine controversy of the primacy between the aircraft carrier and the battleship.

The second failure of the Japanese at Pearl Harbor was their decision not to attack ship repair facilities and petroleum tank farms. These were secondary targets to be hit following the destruction of the American fleet. Vice Admiral Chuichi Nagumo, commander of the strike carriers, concerned that the U.S. carriers might be nearby, decided to retire rather than launch the secondary strikes. It was a decision that would prove unfortunate for the Japanese. This was because Pearl Harbor was a center of gravity for the U.S. Navy, not just because it contained the majority of the Pacific Fleet's ships, but also because its role as a significant logistic support base. The ship repair facilities spared by the Japanese allowed the U.S. Navy to recover all but two of the battleships (Arizona and Oklahoma) to fighting status in a matter of months. The repair facilities also permitted other units to be rapidly repaired and returned to combat status. If these facilities had been lost, repairs would have had to have been conducted on the American West Coast over ten days steaming time away. This was particularly significant in the case of the Yorktown damaged at the Battle of Coral Sea. The fully functional repair facilities at Pearl Harbor allowed Yorktown to be repaired and returned to combat status in time to play a critical role at Midway. In addition to the repair facilities, the Japanese decision not to launch a second strike also spared large quantities of critical oil reserves at Pearl Harbor. According to E.B. Potter, petroleum tank farms at Pearl Harbor held over 4.5 million barrels of fuel oil. Had this immense reservoir been destroyed by the

Japanese, Pacific fleet operations would have been forced back to the American West Coast.[3]

The attack on Pearl Harbor succeeded in buying Japan a few months of relative freedom in the Western Pacific, but ultimately failed to eliminate or reduce the primary threats of the U.S. Navy. The attack forced the U.S. Navy to adopt maneuver warfare in the Pacific. This was effected by compelling U.S. Navy leadership to use its remaining key maneuver elements, its aircraft carriers, to produce the greatest impact while least exposing themselves to danger. This is a key element of maneuver: maximizing benefit at least cost. As such, naval maneuver dictated American strategy in the Pacific. Concern over risking its carriers only where absolutely critical resulted in such U.S. Navy decisions as turning back the Wake reinforcement task force, and withdrawing naval air support at Guadalcanal. It was determined that these operations were not worth risking the American carriers. Naval maneuver would also dictate nearly every aspect of U.S. naval planning for the Battles of Coral Sea and Midway.

Background -- The Battle of Coral Sea

The period between the Pearl Harbor raid and the Battle of Coral Sea saw an unbroken succession of Japanese victories. The only exception was the Doolittle Raid on Tokyo in April, 1942. Consistent with its name, the raid caused insignificant material damage. However, according to Admiral Edwin Layton, the psychological effect of the raid caused the diversion of Japanese military forces for protection of the Japanese homeland, including naval assets that consequently would not be available for Midway.[4] Fuchida claimed that the raid also convinced Japanese naval chief, Admiral Yamamoto, to proceed with his plan for a major offensive at

Midway. By conducting the operation, Yamamoto hoped to lure the American aircraft carriers and eliminate the offensive potential of the U.S. Pacific Fleet.[5] Although the ostensible purpose of the Midway operation was to establish an outer defensive line to the east and northeast of Japan, it was clearly Yamamoto's hope that the U.S. would use its carrier force to counter his move against Midway. This was made clear in his guidance to the Japanese Naval General Staff in April, 1942:

> In the last analysis, the success of failure of our entire strategy in the Pacific will be determined by whether or not we succeed in destroying the United States Fleet, more particularly its carrier task forces . . . We believe that by launching the proposed operations against Midway, we can succeed in drawing out the enemy's carrier strength and destroying it in decisive battle. If, on the other hand, the enemy should avoid our challenge, we shall still realize an important gain by advancing our defensive perimeter to Midway and the western Aleutians.[6]

In conducting a successful operation at Midway, Yamamoto sought to achieve security for the Japanese empire from attack, while simultaneously eliminating the offensive potential of Midway Island and the American carriers. This is an example of strategic naval maneuver. By his plan, Yamamoto sought to place the Americans in a lose-lose situation. If the Americans responded to Japan's move against Midway, they would have to place at risk their high-value carriers. If they did not respond, they would lose an important outpost. This clearly would, in naval maneuver terms, place the Americans at a disadvantage by not allowing them to decide when and where to optimally use their striking power. By such a strategy, Yamamoto could continually force the Americans to react, rather than permitting then the opportunity to take the initiative, as they showed the capability of doing in the Doolittle Raid. Such a strategy would also favor the Japanese, as the Americans would likely lose their remaining carrier forces to the superior number of Japanese forces in successive attrition style encounters.

However, before the Japanese plan for Midway could be executed, American and Japanese carriers engaged in the Coral Sea on May 7, 1942. The Battle of Coral Sea was the first naval engagement where surface units never came within sight of each other. The battle clearly established a new era of naval warfare, one that would firmly place the aircraft carrier as the preeminent naval platform. Although instances such as Pearl Harbor and the sinking of HMS Prince of Wales and Repulse by Japanese air demonstrated the vulnerability of ships to aircraft, the Battle of Coral Sea unquestionably established the aircraft carrier itself as the preeminent naval strike platform in at-sea engagements. Coral Sea also marked the first battle where the aircraft carrier themselves became the primary targets in a naval engagement.

U.S. Naval Intelligence had alerted Admiral Chester Nimitz, Commander in Chief of the Pacific Fleet, that the Japanese were planning to capture Port Moresby on New Guinea in early May. By taking New Guinea, and later Fiji and Samoa, the Japanese would cut the American sea lines of communications with Australia and New Zealand. The result would be the unacceptable loss of Australia as a staging base for an American counter-offensive on Japanese possessions. The prospect of such a threat to Australia and New Zealand forced the Americans to respond. However, the timing of the Japanese plans was disadvantageous for the Americans. Two U.S. Navy carrier task groups (Enterprise and Hornet) were participating in the Doolittle Raid over two thousand miles away. Hence they would not be able to reach New Guinea before the Japanese attack. With the Saratoga refitting on the west coast, and only Yorktown and Lexington available, the Americans were hardly in a position to muster a Mahanian fleet concentration to counter the Japanese. Furthermore, contrary to good practice of naval maneuver, the Americans were not in position to decide whether or not to engage, as

Australia and New Zealand were too important to allow to be threatened. Forced to respond and not being able to muster a large force, the American forces had only foreknowledge of enemy intentions in their favor.

Although unique in many ways, the Battle of Coral Sea was not decisive. Based on tonnage sunk, Coral Sea appeared to be another in a string of Japanese victories.[7] The fact that the Americans could not afford to trade ships one-for-one with the Japanese in the short term also portended a Japanese victory at Coral Sea. However, the Battle of Coral Sea revealed several factors that would prove advantageous to the Americans at Midway. First, although suffering the loss of only a light carrier, two Japanese fleet carriers, Shokaku and Zuikaku, were so heavily damaged and lost so many of their precious pilots at Coral Sea, that they would not be available for combat at Midway. Second, although the Japanese could claim victory at Coral Sea, it marked the first set back to their conquests since the war began. The setback to Japanese plan, and the loss of one of their carriers gave confidence to the entire American Pacific war effort. Americans knew they were as capable as their heretofore superhuman counterparts. It also demonstrated that the morale of the U.S. Navy remained unbroken and that it retained an offensive fighting spirit that would manifest itself at Midway. Finally, the Japanese believed that the Yorktown had been sunk at Coral Sea. Although damaged in the battle, Yorktown was repaired at Pearl Harbor within a few days and available for action off Midway. This would contribute to Japanese miscalculation at Midway.

As previously mentioned, the Battle of Coral Sea was significant in setting the stage for maneuver at Midway. Japanese leaders were not greatly effected by Coral Sea, even with the first loss of the war in one of her carriers. According to John Keegan, in the Japanese eyes the

sun was still rising over the their empire, with Coral Sea only a minor setback to its plans for New Guinea.[8] The loss of Lexington and supposed loss of Yorktown only further reinforced the belief of their maritime superiority. The loss of Lexington was a blow to the Americans, however, the absence of three carriers at Midway would be more sorely missed by the Japanese at Midway. Though considered a Japanese victory at the time, a historical perspective allows us to see that the loss of the Lexington at Coral Sea was worth the absence of three Japanese carriers at Midway. Furthermore, although loss of Lexington was most unfavorable to the Americans in the short term, the Japanese could less afford to exchange one-for-one with the Americans in the long term.

The Battle of Coral Sea was also significant to naval maneuver. The most significant result was that the aircraft carrier was firmly established as the preeminent maneuver platform. Coral Sea engagements were unique in that they took place with no surface combatants ever coming within sight of each other. This new kind of warfare would require a new breed of commander. In naval warfare dominated by the battleship, qualities of a commander were those that thought in terms of maneuvering groups of ships within eyesight to bring guns to bear. This new kind of warfare highlighted a different kind of maneuver warfare that required thinking in more abstract terms of time and space. As will be demonstrated, the existence of such thinking on the part of the American leadership, and Japanese lack thereof, would prove decisive at Midway.

The Battle of Midway

The Americans entered into the Battle of Midway in June, 1942 clearly the underdog. Imperial Japan had executed an unbroken chain of successful military operations that had established an extended empire in the Western Pacific that brought her desperately needed natural resources. Allied efforts failed to halt Japanese aggression. The only exception was the Battle of Coral Sea, which although seen as an American defeat because of its attrition-style outcome, was the first check to Japan's offensive.

As discussed earlier, Japan's intention was to take Midway to deny the Americans the opportunity to use it as a forward base to strike Japanese possessions and to draw out American aircraft carriers and destroy them using overwhelming force. The Japanese force used in the Midway operation was composed of 8 aircraft carriers (6 fleet carriers, 2 smaller escort carriers), 11 battleships, 23 cruisers and 65 destroyers. This force more than tripled American strengths in almost every category. The only exception to this superiority was in submarines, where the Americans enjoyed an equal force ratio.

The Japanese plan for Midway was devised by Admiral Yamamoto, the architect of the Pearl Harbor raid. According to Fuchida, Yamamoto's plan called for dividing the Midway force into no less than six major tactical forces (see Figure 1). On 3 June the Northern (Aleutian) Force, consisting of the Second Carrier Striking Force (including the new fleet carrier, Junyo, and one light carrier), and two invasion forces, were to occupy the Aleutian Islands of Attu and Kiska. This force was largely a diversion to lure American naval forces away from the main objective of Midway long enough for Japanese forces to occupy Midway and prepare for battle against reacting American carriers. The remaining five tactical groups comprised the Midway force: the Main

Force, the First Carrier Strike Force, the Midway Occupation Force, the Advance (submarine) Force and the Shore-based Air Force.[9] In total the Japanese Midway force would consist of 107 ships operating across nearly 2,000 miles from the Aleutians to Midway and over 2,000 miles from Japan.

The Advance Force, consisting of 10 submarines, were to arrive on station on 2 June and operate north and west of Hawaii to detect the approach of American Forces reacting to either Midway or Aleutian operations. On 4 June, the First Carrier Strike Force under Vice Admiral Chuichi Nagumo, consisting of four fleet carriers: Akagi, Hiryu, Soryu and Kaga, were to launch a pre-invasion airstrike on Midway to destroy American air strength, defensive installations and any ships that were found in the vicinity. The following day on 5 June, the Midway Invasion Force would conduct simultaneous landings at opposite ends of the Midway Atoll. The Shore-based Air Force consisted of flying patrol boats, fighters and bombers that were scattered over Japan's eastern-most islands. Only the flying patrol boats, however, had the range to provide support during the Midway operation. The fighters and bombers were to redeploy to Midway following its occupation, participate in island defense and conduct reconnaissance patrols against reacting American naval forces. However, even when deployed to the Japan's eastern-most possessions, Japanese reconnaissance planes were not able to reach Hawaii to gain intelligence of American forces without refueling. Unfortunately for the Japanese, American intelligence became aware of Japanese efforts to refuel reconnaissance aircraft and prohibited it from happening.[10]

According to Fuchida, Yamamoto's plan expected no enemy reaction until after the Midway landing. If any effort was made by the Americans to relieve American garrisons in the Aleutians, the Second Carrier

Strike Force would meet them. If it appeared that the American would react in strength to the Midway invasion, Yamamoto estimated that he would have enough time to consolidate his entire force, including the First and Second Carrier Strike Forces and the Main Force, to meet and overwhelm the Americans.[11]

Compared to the Japanese, the paucity of American naval forces prohibited such an elaborate plan. To counter Yamamoto's 107 ships, the newly appointed Commander-in-Chief of Pacific Fleet, Admiral Chester Nimitz, had only twentyfive ships, including three carriers, eight cruisers, fourteen destroyers and land-based bombers at Midway. A separate command of nineteen submarines would round out the forces available for Midway. The American carriers were the Enterprise, Yorktown and Hornet (a recent arrival from the Atlantic), however, only the Enterprise's air wing was battle experienced. In addition to the marked disparity in participating carriers, the U.S. Navy force deployed far fewer escorts than the Japanese. The Pearl Harbor raid accounted for the total lack of American battleships and requirements for American naval participation elsewhere in theater claimed the majority of remaining cruisers and destroyers. American carrier task groups would be escorted by a total of 22 cruisers and destroyers, whose sole purpose would be to protect the carriers from enemy surface ships and submarines. In glaring contrast to the Japanese, all American offensive potential was concentrated in its air wings, a fact that would dictate the American naval maneuver strategy for the battle. Lacking any surface ship offensive capability, the American preference would be an engagement similar to what had just been fought in the Coral Sea: engagements at long range, only using aircraft. Clearly this strategy would minimize the advantage of the Japanese in terms overwhelming numbers of capital ships.

The American naval forces appeared totally outclassed. If one were to choose a victor solely on Mahanian characteristics, the larger fleet - Japan - clearly would be the victor. However, the Americans did possess some advantages. According to Keegan, these advantages were American foreknowledge of Japanese intentions, an unsinkable air base at Midway, and RADAR.[12] All of Nimitz's carriers were equipped with RADAR, as were some of his cruisers. While this certainly indicated material and psychological advantage over the Japanese, the limited range of RADAR and the extended ranges at which engagements were fought at Midway, resulted in only minimal advance warning for American forces. The reliability of Midway island could be considered an advantage; however, Midway-based fighter aircraft ultimately proved little more than a nuisance to the Japanese. Although Midway's fighters (six Wildcats, twenty-six Buffaloes) put up a brave defense, they were so heavily outnumbered and outclassed by the Japanese that they proved insignificant. Midway's importance was rather in its mix of U.S. Army, Navy and Marine bomber and reconnaissance aircraft. Although none of these bombers succeeded in damaging a Japanese ship, they played a critical maneuver role by delaying Japanese offensive efforts through successive attacks. Keeping the Japanese reacting and demonstrating that Midway-based offensive air remained a threat critically complicated the Japanese decision making process. Far and away the biggest advantage of the U.S. forces was highly accurate and timely intelligence of Japanese battle plans.

The fact that the Americans had broken Japanese diplomatic and military codes before World War II has been well documented and will not be detailed in this thesis. However, the effect it had on American decisionmaking and plans for maneuver will be discussed. According to Admiral Edwin Layton, American cryptologists first broke Japanese codes

as early as 1926; however, lack of Japanese linguists and frequently changing ciphers resulted in little valuable intelligence information.[13] However, many factors contributed to the rise in the value from these intercepts, including the Japanese underestimation of their opponent's ability to break their code. Keegan claimed that by the spring of 1942, American code breakers where able to read approximately 90 percent of Japanese encoded messages. American naval intelligence was ultimately able to tell Nimitz the place and day of the Japanese planned attack eleven days before the actual attack.[14]

Armed with this information, Nimitz was able to optimize his maneuver strategy. Clearly the Japanese operational center of gravity was its aircraft carriers. If Nagumo's carriers could be neutralized, the rest of Yamamoto's numerically superior force would be without air protection and highly vulnerable to American airpower. Nimitz decided to concentrate his force to inflict the heaviest possible damage. He believed that the Japanese would attack from the northwest of Midway and decided to place his forces where they could be in a position to maximize their flexibility: 700 miles northeast of the island (see Figure 1). Nimitz organized his carriers into two task forces under Admiral Frank (Jack) Fletcher. Task Force 16, led by Admiral Raymond Spruance, consisted of the Enterprise and Hornet, and Task Force 17, directly led by Fletcher, consisted of the Yorktown, which had returned to fighting status in record time from damage suffered at Coral Sea.

Nimitz's orders to his carrier task forces commanders were clear. He told them,

> You will be governed by the principle of calculated risk which you shall interpret to mean avoidance of exposure of your force to attack by superior enemy forces without good prospect of inflicting, as a result of such exposure, greater damage on the enemy.[15]

Nimitz was very clearly expressing naval maneuver in this statement. He had identified the Japanese center of gravity and was now directing his commanders to conduct themselves so as to inflict maximum damage while minimizing casualties.

Although Admiral William "Bull" Halsey would have been the logical flag officer for Nimitz's carriers, a severe skin rash left him hospitalized at Pearl Harbor. The job fell to Fletcher and Spruance, who were ideal for the job. Fletcher, having just returned from the Battle of Coral Sea, was second only to Halsey as the most experienced American carrier task group commander in the Pacific. In what must have been considered an odd choice by contemporary naval officers, Spruance was selected to replace Halsey. According to Thaddeus Tuleja, Spruance "was not an aviator, he had never commanded a carrier task force before, and he was virtually without battle experience."[16] Spruance had, however, commanded a cruiser division that supported Halsey during his extensive carriers operations early in the war. His ability had impressed Halsey enough for his personal recommendation to Nimitz. Spruance was known for a keen intellect and would demonstrate an excellent aptitude for the time and space considerations required in the new age of carrier warfare. Spruance's leadership and decisionmaking ability would prove instrumental at Midway.

Fletcher and Spruance's opponent would be Nagumo, in charge of the four carrier-strong First Carrier Strike Force. According to Keegan, Nagumo was a direct and uncomplicated officer, who was devoted to his sailors and was more comfortable at sea than ashore. However, he was not truly air-minded and according to his friend and commander of Japan's 11th Air fleet, he was "totally unfitted by background, training, experience and interest for a major role in Japan's naval air arm."[17] Keegan claimed that Nagumo was raised in the tradition of ship

destruction by close combat with guns and torpedoes, thought in terms of massing an overall superiority, and his mind grappled uneasily with the spatial and time dimensions of engagement over long distances.[18] Tuleja would claim that Nagumo also suffered from a "victory disease" that was spreading throughout Japan's senior officers. During the four months since Pearl Harbor, Nagumo had sailed across the Pacific, from the Bay of Bengal to just off the Hawaiian islands. In the process he had immobilized the U.S. Pacific Fleet, sunk two of England's capital ships, and sunk a number of destroyers and merchant ships. He did all of this without the loss of one ship.[19] Although certainly successful, Nagumo's shortcomings, and perhaps over confidence, would become apparent when confronted with the requirement for quick and accurate decisionmaking at Midway.

The strategist behind Japan's plan for Midway was the same architect of the Pearl Harbor raid: Admiral Isoroku Yamamoto. According to Tuleja, Yamamoto was regarded by many U.S. Navy officers as a clever tactician who "possessed more brains than any other Japanese in High Command."[20] A strong proponent of carrier-based airpower, Tuleja further claimed that it was through Yamamoto's and his associates' efforts that the Imperial Japanese Navy had ten aircraft carriers commissioned by the outbreak of the Pacific War, compared to the American's five carriers.[21] Schooled at Harvard and stationed in Washington D.C. as a naval attaché, Yamamoto deeply respected American industrial power. According to Caroll Glines, Yamamoto was opposed to Japan entering into a tripartite pact with Germany and Italy, as he believed that war between Japan and America would be a major calamity for his homeland. When the prospect of war between Japan and the America became evident, Yamamoto claimed that if war with America was necessary, "then in the first six months to a year of war against the

U.S. and England I will go wild, and I will show you an uninterrupted succession of victories; but I must tell you that if the war be prolonged for two or three years, I have no confidence in our ultimate victory."[22] It was his realization that Japan would lose in a protracted war with the Americans that caused him to promote a first strike against Pearl Harbor, and to annihilate the American carriers at Midway. This was essentially naval maneuver from the Japanese perspective. Yamamoto clearly recognized Japan's and America's strategic and operational centers of gravity. Accordingly, Yamamoto's plan concentrated Japan's strength for the maximum and most rapid possible effect. This strategy had worked magnificently for the Japanese at Pearl Harbor, and as plans progressed, seemed very likely to succeed again at Midway.

The Battle of Midway began on 3 June, with the Japanese initiating their attack on Midway and searching for enemy units (see Figure 2). The American forces likewise began an intensive reconnaissance effort, largely consisting of flying patrol boats (PBY's) from Midway. Although Fletcher and Nimitz knew the place and day of the attack, intelligence was unable to provide locating information detailed enough to launch strikes. However, the advantage remained with the Americans, who knew that Japanese carriers were in the area, and were able to concentrate their efforts accordingly. In contrast, the Japanese were focused on their plan that envisioned taking Midway Island, then dealing with U.S. carriers responding to the attack. Although the Japanese conducted reconnaissance in case American forces were in the vicinity, Nagumo remained unaware of the American carrier threat 300 miles to his east, even as he conducted his strike on Midway. The foreknowledge of Japanese intentions gave the Americans a tremendous advantage by allowing them to focus their efforts. Nagumo, on the other

hand, lacked even basic intelligence that could have told them the status of American carriers at Pearl Harbor. Even this knowledge could have alerted Nagumo and would have reduced the confusion that paralyzed his decisionmaking during the battle.

The opening action of the Battle of Midway occurred not between aircraft carriers, but between American land-based planes and Japanese cruisers, destroyers and troop transports (see Figure 2). Early on 3 June, a Midway-based Catalina flyingboat located part of the Japanese Midway Occupation Force, consisting of transports screened by cruisers and destroyers. Midway-based B-17s attacked the Japanese force later that day but failed to score hits. Early the following day, Midway-based Catalina's conducted torpedo attacks on the same Japanese force and succeeded in damaging an oiler.

Early on 4 June, opposing carrier forces had still not located each other. However, it was again the Americans, armed with the knowledge that the Japanese were in the area, who gained the advantage by locating Nagumo's carrier force first. The advantage of locating the Japanese first would prove decisive for the Americans at Midway and clearly demonstrate an aspect of naval maneuver that is consistent with Boyd's OODA-loop concept (see Chapter 3). In Boyd's decision-making model, the advantage falls to the side which first observed the other, which in turn facilitated the opportunity to out-maneuver the opponent's decision making process. American intelligence on Japanese plans was instrumental in the Americans locating the Japanese first at Midway. As will be shown, Admiral Spruance in particular would use this advantage most effectively to out-maneuver Nagumo.

It was one of Midway's PBY's that first located Nagumo's carrier force at approximately 0530, while it was preparing to launch an airstrike on Midway. Nagumo sent a force of 108 planes (72 bombers, 36

fighters) to attack Midway, and retained a reserve of 93 planes armed with armor-piercing ordnance to react to any American carriers that might unexpectedly appear. The strike on Midway caused significant installation damage and nearly completely wiped out Midway's hopelessly outnumbered and outclassed fighters (six Wildcats and twenty Buffaloes). However, while Midway was being attacked, Midway-based bombers (fifteen B-17s, four Marauders, and six Avenger's) responded to the locating data on Nagumo's carriers. They found and attacked Hiryu and Akagi at 0700. Unfortunately for the Americans, the bombers attacking from high altitude would fail to score any hits. The attack did have the effect of confirming in Nagumo's mind that a second attack on Midway was required to take out the American bombers that could threaten Japanese landing forces tasked with taking the island. This produced Nagumo's first incorrect decision of the battle. At 0715, he ordered the aircraft reserve with anti-ship weapons to be struck below and re-armed to attack land targets. This decision forced him to delay taking action while he recovered aircraft returning from Midway. In making this decision, Nagumo lost the initiative and flexibility of his numerically superior force. He would spend the rest of the battle reacting to American attacks or new information on enemy forces.

At 0820, 4 June, Nagumo received a report from a scout plane that located a carrier force (Yorktown) over 150 miles away. Unfortunately for Nagumo, Midway-based bombers made their second attack of the day about the same time he received locating data on the Yorktown. Consistent with their performance during the battle, the American bombers failed to put a bomb on target. However, these bombers still made a significant contribution in that they kept Nagumo on the defensive and delayed his ability to attack the Yorktown. Following his attack, Nagumo recovered the Midway strike aircraft and accelerated

rearming his planes with anti-ship weapons. Nagumo ignored recommendations to immediately launch an attack against the American carrier even after receiving a message from his scout planes stating that ten torpedo planes from the Yorktown were heading his way. Keegan claimed Nagumo decided to wait, feeling confident that he would soon have recovered his full striking power to throw against the American carrier. (The Japanese still did not know it to be Yorktown, believing it to have been sunk at Coral Sea). In deciding to mass his combat power rather than striking immediately, Nagumo allowed another opportunity to regain the initiative to slip by. The new age of carrier tactics, as Midway would show, did not require mass of force. The side that located and attacked the other first, gained a advantage more significant than numerical superiority would afford.

Meanwhile, Fletcher had also received the Catalina's 0530 message that fixed the location of Nagumo's carrier force. He ordered Spruance to take Task Force 16, consisting of Enterprise and Hornet, to the southwest to engage Nagumo. According to Keegan, Spruance's initial plan was to launch a strike against Nagumo at 0900, when opposing carriers were within 100 miles of each other. However, unlike Nagumo, Spruance was thinking in terms of modern carrier tactics. Reports of Nagumo's strike on Midway suggested to Spruance that if he launched earlier, he might catch the enemy carriers in the highly vulnerable position of recovering aircraft. Knowing that hitting Nagumo first would give him a distinct advantage, Spruance gambled by deciding to launch all of his available bombers early, even though it meant stretching his aircraft's range to their limits.[23]

Task Force 16's attack became uncoordinated at the outset. Fuel restrictions required that aircraft press on to their target soon after launch. Rather that forming up with their fighter escort overhead the

carrier, the American torpedo and dive-bombers planned to rendezvous with their fighter escort prior making their bombing run. The rendezvous failed to occur and led to uncoordinated attacks without the critically needed fighter support. Further complicating the problem, Nagumo, acting on additional reporting from his scout plane on Yorktown's impending strike, altered course to the northeast. When Hornets dive-bombers failed to locate Nagumo's carriers at the expected location, they opted to search southeast, missing the battle altogether.

Spruance's torpedo-bomber squadrons had better luck finding the Japanese. Although Hornet's Torpedo Squadron 8, Enterprise's Torpedo 6 and Yorktown's Topedo 3, all became separated from their bombing and fighter escorts, each managed to locate Nagumo's carriers. Each squadron, consisting of old, slow and vulnerable Devastators, individually conducted attacks against the Japanese carriers between 0930 and 1025 without fighter protection. All attacks failed to score a hit and resulted in horrifying losses to aircraft and aircrew.

At 1025, the Japanese position appeared stronger than ever. Including attacks from Midway-based bombers, the Japanese had emerged unscathed from seven separate attacks from some 83 aircraft, 37 of which had been destroyed.[24] Yet the American attacks had left Nagumo's carriers extremely vulnerable. As a result of taking evasive action against the attacks, Nagumo's carriers were too dispersed to effectively provide mutual protection. Its fighter protection, optimally positioned at high altitude, was at sea-level chasing down the remnants of the retreating torpedo squadrons. Finally, Nagumo's carriers themselves were littered with high-explosive bombs resulting from his decision to switch weapons loads earlier that morning. The decks were also covered with fuel hoses and fully armed aircraft preparing to, at long last,

attack the Yorktown. At 1025, June 4, 1942, the Japanese Navy, poised to win a decisive victory, stood at its peak.

This was the state of Nagumo's carriers, when the tide of battle turned. Finally locating the Japanese carrier force, Enterprise-based dive bombers began their attack at 1025 on the Akagi and Kaga. By sheer chance, one of Yorktown's dive-bombing squadrons had also located Nagumo's carriers, and simultaneously initiated its attack on Soryu. Unmolested by Japanese fighters, the two squadrons scored numerous hits on all three carriers. Within minutes Akagi was in a sinking condition, with Kaga suffering a similar fate. Soryu, managed to get its fires under control, but the U.S. Navy submarine Nautilus caught her later that day, and put her to the bottom with three torpedoes. The remaining carrier of Nagumo's First Strike Force was the Hiryu, which was well north of the other three carriers as a result of evading earlier attacks. Hiryu launched an attack on Yorktown that severely crippled her. Yorktown managed to control the damage, and began making way toward Pearl Harbor, when torpedoes from a Japanese submarine put her to the bottom the following day. Enterprise dive-bombers played out the last act of the day. At 1700 they successfully located and attacked Hiryu, starting fires that eventually sunk her early the next day.

By 0900 on June 5, all four of Nagumo's carriers had been sunk (see Figure 2). Also that morning, Midway-based bombers attacked the Japanese heavy cruisers Mogami and Mikuma that were covering the Midway Occupation Force, but again failed to score hits. Task Force 16 attacked the two cruisers the next day. Spruance's aircraft sunk the Mikuma and so heavily damaged Mogami that it required over a year to return to service.

The price of successful naval maneuver was not cheap for the Americans: one carrier and one destroyer sunk, 307 men killed, 147

aircraft lost, extensive damage to Midway installations, and loss of Attu and Kiska. The Japanese losses however were severe enough to turn the tide of the Pacific war: four carriers and one heavy cruiser sunk, one battleship, one cruiser, one oiler, and three destroyers damaged, 322 aircraft lost and 2,500 men killed. Personnel losses included many of Japan's most experienced carrier pilots, a commodity that, according to Keegan, Japan could not readily replace. This loss would seriously handicap Japan's naval air arm and maritime power through the rest of the war.[25] For their losses, the Japanese gained the strategically insignificant Aleutian Islands of Kiska and Attu, which were occupied without resistance on 7 June.

Conclusion

The Japanese were without question the heavy favorite in a Midway-size engagement. They were superior in numbers in almost every category of weapon system. They enjoyed a nearly three to one advantage in aircraft carrier, and were overwhelmingly superior in surface combatants. Most of the Japanese weapons systems were superior to their American counterparts. According to Keegan, this included most of the carrier-borne aircraft that fought at Midway such as the Mitsubishi A6M Zero, Nakajima B5N Kate and Aicha DSA Val.[26] Japanese aircrews had proven themselves superbly trained and equipped and enjoyed a critical superiority over their American opponents in combat experience. Japanese morale was unquestionably high, having achieved an unbroken series of victories from the Indian Ocean across the Pacific.

Before Midway, Japanese strategy of naval maneuver had served them well. The Japanese moved decisively against their greatest threat in the Pacific, forcing their opponent to stay largely on the defensive. The only offensive operations that the Americans managed to execute, the

Doolittle Raid and into the Coral Sea, were considered insignificant in the case of the former and at best a marginal victory in the latter. Although the Japanese began the Midway campaign with an overwhelming advantage, they actually entered into the operation under quite different circumstances from their previously successful operations. They conducted previous operations with the assistance of good intelligence and against undermanned, ill-equipped, surprised and out-maneuvered opponents. At Midway, the tables were reversed in several key aspects. The Americans, although still out numbered, were not to be surprised. To the contrary, the Japanese were the ones surprised. For the first time during the war, the Americans were able to conduct maneuver on their terms. The Americans had the time and knowledge of the enemy to optimize the effect of its numerically inferior force, while simultaneously providing as much security for their forces as possible.

A primary weakness in Yamamoto's strategy was in the overly elaborate nature of his plan for Midway. Japan enjoyed nearly a three-to-one advantage over the Americans in aircraft carrier strength. Yet in a move that would have horrified Mahan, Yamamoto chose not to concentrate these primary assets, but instead frittered away this powerful advantage by dispersing his carriers over four geographically and organizationally separate groups. This violated the idea of naval maneuver on two primary counts.

First, according to Harry Gailey, the basis for Yamamoto's Midway plan was to strike the final blow against the American Pacific fleet's aircraft carriers. Yamamoto strenuously pushed his plan over the objections of his staff to commit Japanese naval resources to cut American supply lines with Australia. Yamamoto reasoned that once the American carriers neutralized all other Allied operations in the Pacific

would indefensible.[27] Thus, Yamamoto saw the American carriers as the Allies only means to threaten Japan's island possessions, as well as the only effective means of defense in a primarily maritime theater. Therefore, it was clear that Yamamoto's had identified the American aircraft carriers as the center of gravity for Allied operations in the Pacific. His plan failed, however, to carry through the central purpose of the campaign by not focusing totally on that center of gravity. Although Yamamoto had eight carriers at his disposal (he would have had as many as two more, were it not for the Battle of Coral Sea), he concentrated only four in the First Carrier Striking Force. The result was that on 4 June, the Americans actually faced a carrier ratio of nearly one-to-one (four Japanese carriers to three American). Yamamoto needlessly dispersed his forces to support efforts not targeted at the American center of gravity. These secondary efforts included escorting the deception force in the Aleutians and covering the Midway Occupation Force. Both of these missions were secondary to the Midway campaign and could have been achieved at will by the Japanese after the American carriers had been eliminated. The existence of even one additional carrier with the First Carrier Strike Force could easily have resulted in a dramatically different outcome.

Second, according to Keegan, Yamamoto's overly elaborate plan had a vital defect in that it depended on the enemy doing exactly what was expected.[28] Yamamoto's plan lacked flexibility, a key element of maneuver, in its ability to efficiently react to unexpected enemy actions. Yamamoto's plan hinged on the assumption that the Americans carriers were not in the area and would take at least a day to respond to the Midway occupation. His plan called for a concentration of his carriers after Midway had been secured, thereby leaving his carrier forces hopelessly dispersed during the initial phases of the battle.

The American forces caught Yamamoto's forces during the phase in which they were most vulnerable, because their focus was split on two objectives: attacking Midway Island and searching for American carriers.

The greatest asset to American operational naval maneuver was its intelligence on Japanese intentions. Out-manned, out-gunned and lacking in combat experience, the only criterion in favor of the Americans was the potential for achieving surprise. This advantage for the Americans was not complete, however, for though it provided the day of the attack, intelligence was only able to provide general enemy intentions. It did not provide the details of Japanese order of battle, nor did it provide the tactical level of detail required to locate and attack Japanese carriers. The critical advantage provided to the Americans by the intelligence coup was the opportunity to obtain the initiative in the battle. The Japanese on the other hand were nearly totally without operational intelligence. As related by Layton, Japanese attempts to gain information on the status of carriers at Pearl Harbor was thwarted by American counterintelligence efforts.[29] What information the Japanese did possess was based on faulty estimates from the recent engagement at Coral Sea. As related by Walter Lord, the Japanese believed that it had sunk, or at least put out of commission, two American carriers.[30] Nagumo believed he would be facing one American carrier that would probably arrive after Midway had been occupied. Given this mind set, the arrival of three American carriers, not one, easily overwhelmed Nagumo's decision-making capability. Similar to the U.S. Marine Corps definition maneuver, Fletcher and Spruance presented Nagumo with a series of violent strikes, from which he was unable to effectively cope. Unlike the U.S. Marine Corps definition, however, the effectiveness of Fletcher's and Spruance's maneuver was not based solely on violent strikes. Nagumo was easily

out-maneuvered because of his fragile mindset. This delicately balanced mindset was primarily predicated on faulty, to at best weak, intelligence and a strategy that forced a split in priorities. Fletcher's and Spruance's maneuver successfully capitalized on these weaknesses.

In the final analysis, naval maneuver is driven by leadership. Successful maneuver requires aggressive leaders who realize the advantage of maintaining focus and initiative, while simultaneously maintaining the flexibility to exploit opportunities that present themselves. Japanese leadership at Midway was composed of unquestionably excellent combat-tested commanders, however, they were handicapped by Yamamoto's over-elaborate plan that split their focus of effort on near-simultaneously attacking Midway and the American carriers. This handicap affected the commander of Japan's First Carrier Strike Force, Admiral Nagumo, most significantly. While focusing on the mission of attacking Midway Island on 4 June, he faced the prospect of simultaneously dealing with an American carrier force not expected until at least the next day. The conflict of priority and the divided focus between the two missions threw a wrench into Nagumo's decisionmaking process. News of an American carrier in the vicinity initiated a series of reactions from Nagumo that was to continue the rest of the battle. Nagumo's resulting hesitation and perpetual reaction caused him to lose the initiative, a must for maneuver warfare.

Nagumo's counterparts, Spruance and Fletcher, suffered from no such lack of focus. They focused their efforts on Yamamoto's center of gravity: his carrier striking force. Clearly, the protection of Midway proved secondary to locating and attacking the Japanese carriers. In a classic example of tradeoffs required in maneuver, Midway Island itself was deliberately exposed to allow Nagumo to play his first hand, thereby

exposing himself. The foreknowledge of Japanese intentions gave the Americans operational initiative and allowed their task forces to properly maneuver to achieve the highest likelihood of success. While Nagumo's focus was split, all of the American's efforts were aimed at one objective: locate the Japanese carriers known to be in the region. Operational initiative translated into tactical initiative as a result of the Americans locating Nagumo first. Spruance best demonstrated his understanding of naval maneuver. His decision to launch his first attack on Nagumo was based on the fact that he could maximize damage with his inferior force by catching Nagumo's carriers in a vulnerable state. Spruance's gamble paid off, and resulted in the Americans maintaining the initiative throughout the battle.

American forces, though out-numbered, were victorious because they maximized use of their assets in the form of maneuver. Intelligence set the stage for an American surprise and the ability to take and maintain the initiative. Although Midway-based bombers failed to score a single hit on Japanese combatants,[31] they were nonetheless indispensable to the American victory at Midway in that they kept Nagumo reacting. According to Keegan, their attacks also convinced Nagumo that his mission of eradicating Midway's air defense capabilities in support of a Japanese landing still had not been completed.[32] This further complicated his decisionmaking process and forced his focus to remain split until he was overwhelmed by American carrier-based aircraft. Even the seemingly fruitless attacks by Yorktown and Enterprise's torpedo planes succeeded in keeping Nagumo in the reaction mode, until the arrival of more lethal dive-bombers. All of these assets were used, albeit somewhat unwittingly, by the Americans as maneuver elements. The Japanese in contrast were unable to concentrate their superior assets to assist in even a minor way in the battle.

In conclusion, initiative proved to be the decisive element for successful maneuver at Midway. The Americans, through superior military intelligence maintained the initiative from the strategic level by knowing Japanese intentions weeks before the operation, to the operational level, by knowing the date and location of the attack. The Americans maintained this initiative down to the tactical level by locating Nagumo's carriers first and keeping him reacting throughout the battle. Initiative is a critical element of naval maneuver because at its very essence, maneuver requires acting upon the enemy. Maneuver can be effected in either a defensive or offensive operation as long as events are dictated upon the enemy. This requires maintaining the initiative. Without this ability, desired force levels cannot be husbanded for application at the critical time and place. Rather, like Nagumo, precious assets are wasted in actions that have little to do with reaching the desired end state. Like the Americans, however, having the initiative guaranteed desired forces were available at the desire time to be used at the designated place, to achieve maximum results.

Endnotes

[1]Russell F. Weigley, The American Way of War (Bloomington, Indiana: Bloomington University Press: 1973), 245-246.

[2]Mitsuo Fuchida, Midway, The Battle That Doomed Japan (Annapolis: United States Naval Institute, 1955), 34.

[3]E.B. Potter, Nimitz (Annapolis MD: United States Naval Institute, 1976), 18.

[4]Edwin T. Layton, And I Was There (New York: William Morrow Inc., 1985), 388.

[5]Fuchida, 71.

[6]Ibid., 60.

[7]The Japanese lost of only the light aircraft carrier Shoho, compared to the American loss of the fleet carrier Lexington, destroyer Sims, and oiler Neosho.

[8]John Keegan, The Price of Admiralty, (New York: Viking Penguin Inc., 1988), 182.

[9]Fuchida, 80-84.

[10]Layton, 435.

[11]Ibid., 86.

[12]Keegan, 188.

[13]Layton, 34.

[14]Keegan, 185-186.

[15]Ibid., 189.

[16]Tuleja, Thaddeus V., Climax at Midway (New York: W. W. Norton and Company, 1960), 64.

[17]Keegan, 195.

[18]Keegan, 195.

[19]Tuleja, 27.

[20]Ibid., 28.

[21]Ibid., 29-30.

[22]Carroll V. Glines, Attack on Yamamoto (New York: Orion Books, 1990), 51.

[23]Keegan, 199.

[24]Ibid., 203.

[25]Ibid., 208.

[26]Ibid., 191-194.

[27]Harry A. Gailey, The War in the Pacific (Novato, CA: Presidio Press, 1995), 146.

[28]Keegan, 188.

[29]Layton, 435.

[30]Walter Lord, Incredible Victory, (New York: Harper Perennial, 1967), 11.

[31]Potter, 105. According to E.B. Potter, extensive questioning of Japanese naval officers after the war made it clear that the B-17 bombers at Midway dropped over 322 bombs but never damaged a Japanese ship. This countered the myth prevalent through the war that B-17's had won the Battle of Midway.

[32]Keegan, 196.

CHAPTER FIVE

CUBAN MISSILE CRISIS

Introduction

The previous chapter used the case study of the Battle of Midway to examine naval maneuver. In the Midway case study, we observed naval maneuver primarily at the operational level in an action that required combat to achieve its goals. To elucidate the concept of operational-level combat naval maneuver, it is necessary to determine the strategic goals of the opposing sides and analyze decision making at various levels to determine how naval maneuver should be used to achieve the strategic goals.

This chapter will use the Cuban Missile Crisis of 1962 to examine strategic-level naval maneuver in a non-combat environment. This case study was chosen because naval power is often used in a role that is not focused on destruction of the enemy. In today's environment the U.S. Navy is increasingly called upon to conduct such non-combat operations as sanctions enforcement and drug interdiction. Emphasis on naval power in non-combat scenarios is often implicitly based on the concept of naval maneuver that emphasizes concentrating effort against an enemy weakness.

The demise of the Soviet Union has left the U.S. Navy the unchallenged master of the seas. Because of this fact, American national-level leadership has a tremendous asset in its naval power in having a tool to forward its strategic initiatives. This advantage is made even more apparent by the limited ability of potential opponents to

counter this superiority. The Soviet Union in the early 1960's falls into this category of being a nation that was out-classed by American naval strength. This shortcoming was highlighted on an international scale by the strategic use of American naval power that was instrumental in deciding the Cuban Missile Crisis.

This chapter will begin the analysis of strategic-level naval maneuver by discussing the background leading up to the crisis. The strategic goals of the two super powers in the crisis, the Soviet Union and the United States will also be examined. Analysis will include considering what the Soviet stood to gain in such a gamble, as well as what the United States stood to lose by failing to effectively respond to the Soviet move. Because maneuver is inextricably linked with leadership, the primary leaders in the crisis, Nikita Krushchev and John F. Kennedy, will be discussed. Highlighted in this discussion is Kennedy's thought process in deciding upon the use of naval power, namely the blockade, as a primary tool to counter the Soviets. This chapter will also discuss elements of operational-level naval maneuver during the crisis. This will include studying the make-up of opposing naval forces and how one was better equipped to conduct naval maneuver than the other. This chapter will conclude with discussion on the decision to use, and the effect of, naval maneuver during the crisis, and how its use effected the future of the American and Soviet navies.

Background

The root causes of the Cuban Missile Crisis lie in the beginning of the Cold War. As the bi-polar world emerged with the United States and Soviet Union as protagonists, nearly every region in the world was caste as either pro-West, pro-East, or a member of the non-aligned

movement. The Caribbean and Latin America were also to be subjected to this ideological litmus test.

The Caribbean and Latin America were of particular importance to the Washington simply because of their proximity to the continental United States. American sensitivity to incursions into this region had been long established by policy, most notably by the Monroe Doctrine, that had for well over a century claimed Washington's hegemony in the region. As the Cold War was heating up, American willingness to apply the Monroe Doctrine against communist incursions was demonstrated in Guatemala in 1954. According to Herbert Dinerstein, the U.S. State Department announced in the spring of that year that the Soviet Union was supplying the communist-dominated Arbenz regime with weapons. The resultant American-led overthrow of the Arbenz regime sent a clear signal to the region, as well as to the Soviets. Washington's message was that it had the capability and desire to dominate political developments in Latin America as a whole, and in the Caribbean in particular.[1] This incident alone clearly demonstrated American resolve in controlling events in its own back yard. American concern for the Caribbean was made all that more clear when considering that the same administration, under Dwight Eisenhower, decided against sending American forces to Vietnam to oppose communist successes, but chose to invade Guatemala for the same reason. Following the invasion of Guatemala, the Soviet Union lost interest in Latin American and the Caribbean in particular.[2]

The advent of a communist regime in Latin America did not materialize until six years following Guatemala, taking both the Americans and the Soviets by surprise. In December of 1961, Fidel Castro declared himself a communist and embraced Soviet support. According to Dinerstein, neither the Latin American Communists, the

Soviets, nor the Americans expected Castro to come to power in early 1959. However, his eventual embracing of communism realized the State Department's worst fears and provided the Soviets what they had dared not hope for.[3] Nearly over night, a communist threat appeared 90 miles from the Florida coast. The Soviets had succeeded at long last in obtaining an ally on the American's border.

Castro's claims to communism came after months of growing acrimony between Havana and Washington. Castro's most immediate fear, and primary reason for requesting Soviet assistance, was of an American invasion. Castro's fears appeared justified by the CIA-backed failed Bay of Pigs invasion in April of 1961 and large American naval exercises periodically conducted in the region. According to James Blight, the Cubans believed the Bay of Pigs invasion forecasted American intentions, and that it was just a matter of time before Washington would launch a full-scale invasion.[4] Thus to the Cubans, security was a distinct concern, which drove them into the arms of the Soviet Union.

According to James Blight, Krushchev first thought of the plan to secretly deploy nuclear missiles to Cuba in late April 1962.[5] The Soviets broached the idea with Havana in late May, which was unanimously endorsed by the Cuban leadership. By late July, surface-to-air-missiles (SAMS) and nuclear missile support equipment departed the Soviet Union for Cuba. In mid-August 1962, CIA Director John McCone notified Kennedy of the possibility of Soviet intentions to place nuclear missiles in Cuba. Kennedy responded with a call to study the significance of nuclear missiles in Cuba and to develop possible American responses.[6]

Attorney General Robert Kennedy met with Soviet Ambassador Anatoly Dobrynin in September 1962, expressing President Kennedy's concern over Soviet military equipment in Cuba. Dobrynin responded that no ground-to-ground or offensive weapons would be placed in Cuba. Soon

after, Kennedy released a public statement announcing that Soviet military equipment, including SAMS, had been detected in Cuba by reconnaissance flights, but that no offensive weapons were in Cuba. In the statement, Kennedy also warned Krushchev against any attempt to place offensive weapons in Cuba. To demonstrate his concern, Kennedy requested congressional authority to call up 150,000 reservists in early September. At this time, Kennedy again publicly warned Krushchev that the United States would take any action necessary to protect its security if Cuba became a significant Soviet offensive base. On 15 September, the first Soviet SS-4 Medium Range Ballistic Missiles (MRBMs) arrived in Cuba without American knowledge. On 4 October, still unaware of these Soviet missiles in Cuba, Congress passed legislation sanctioning use of American forces in response to any aggression from Cuba. On 15 October, a U-2 reconnaissance flight confirmed MRBMs in Cuba.[7] Kennedy decided to respond with a naval blockade on 22 October, which was officially implemented on 24 October. By 28 October, Krushchev agreed to remove Soviet nuclear missiles from Cuba in exchange for the removal of American missiles in Turkey and assurances from Kennedy that America would not invade Cuba.[8] By the second week of November, all Soviet missiles had been removed from Cuba.

Why did the USSR Deploy Missiles to Cuba?

To understand the nature of the crisis, and how naval maneuver was used to assist in a resolution favorable to the United States, one should ask why the Soviets chose to embark on such a gamble to place offensive missiles in Cuba. Washington had clearly signaled to the Soviet Union, and the world, its intention to oppose any incursion into the Caribbean through such actions as the invasion of Guatemala and the Bay of Pigs. Graham Allison claimed that the Kennedy administration in particular had directly and publicly notified the USSR as late as

September 1962 that they would not tolerate offensive missiles in Cuba.[9] There was no reason for the Soviet Union to think that the United States would not respond to such a move into its backyard. Yet, Krushchev in the face of seemingly very clear warnings chose to proceed with his highly confrontational plan. Krushchev's true reasoning for adopting his course of action remains the subject of speculation. Regardless of his motivation, placing nuclear missiles in Cuba was an act of strategic maneuver in and of itself.

Allison proposed five hypothesis as possible motivations for Krushchev's decision to arm Cuba with missiles.[10] The first hypothesis proposes that Krushchev placed missiles in Cuba as a bargaining tool in a nuclear armament trade-off, possibly in exchange for American missiles in Turkey. However, this hypothesis in unlikely because Kennedy had agreed to remove the missiles from Cuba prior to the crisis and the exchange would have been far from profitable for the Soviets. The second hypothesis suggests that Krushchev placed missiles in Cuba with the express purpose of provoking an American military response that would internationally alienate Kennedy. However, the stationing of Soviet troops in Cuba along with the missiles made them a far less appealing target. The fact that Krushchev withdrew the missiles without armed confrontation also undermines this logic of this hypothesis. The third hypothesis suggests the Soviets placed the missiles in Cuba to assist in defending the island from American invasion. However, nothing would have made Cuba more of a target for Washington than placing nuclear missiles on the island. Furthermore, if a deterrent to invasion was desired, simply placing Soviet troops on Cuba would have been sufficient. The fourth hypothesis suggests Krushchev's goal was to internationally discredit the Americans by demonstrating American indecisiveness and the hollowness of the Monroe Doctrine. According to

Allison, Kennedy seemed to have embraced this hypothesis.[11] However, this explanation raises several questions, such as why did the Soviets need to test American resolve after their strong stand in Berlin and why were so many missiles deployed when just a few would have been sufficient? Additionally, why chose Cuba for such a potential standoff where the Soviets were so militarily disadvantaged? Allison claims that the fifth hypothesis is the most likely explanation for Krushchev's initiative.[12] This hypothesis suggests that placing Soviet missiles in Cuba would provide a swift, significant and comparatively inexpensive means to improve Moscow's strategic nuclear delivery capability against the continental United States. This hypothesis is consistent with the type and number of missiles deployed, as will as the fact that their location outflanked American early warning systems and resulted in greater targeting accuracy.

Course of Action Considered by the United States

President Kennedy was forced to respond to Krushchev's strategic-level maneuver. Krushchev's initial strategy had worked: it placed the Americans in the position of having to react. Based on the previously discussed hypotheses, any number of American responses would have played into Krushchev's hands. As previously discussed, Kennedy seemed to believe Soviet strategy was motivated by hypothesis four: that American credibility was being challenged. To develop a response, Kennedy assembled the Executive Committee of the National Security Council (ExCom). Primary members of this committee were Attorney General Robert Kennedy, Secretary of State Dean Rusk, Secretary of Defense Robert McNamara, Director of Central Intelligence Agency John McCone, and Chairman of the Joint Chiefs of Staff Maxwell Taylor.[13] Kennedy asked the ExCom to develop potential courses of action to

resolve the crisis. According to Allison, the ExCom responded with potential responses that fell in to the following six major categories of action.[14]

Course of action one proposed that the Kennedy not respond at all. The reasoning behind this was that American vulnerability was nothing new and the fact that the Soviets could strike from Cuba as well as Russia made little difference. The real value the Soviets stood to gain was through an over-reaction by the United States. By responding in a casual manner, the Kennedy would deflate whatever political mileage Krushchev hoped to reap from the crisis.

This proposal fails by grossly underestimating the importance of Soviet missiles in Cuba. As previously discussed, not only did the Soviet move double its first strike capability, it also out-flanked the existing American early warning system. This proposal also underestimated the political importance of the Soviet move. Krushchev's move directly challenged President Kennedy's international credibility. This was particularly evident based on Kennedy's 13 September statement warning that he would take whatever ever action necessary to maintain American security in the face offensive weapons in Cuba.[15]

Course of action two recommended using diplomatic pressure to resolve the crisis. Options in this category included an appeal to the U.N. that might involve inspections teams, or a secret or direct approach to Krushchev that might lead to a summit. This solution would probably require some form of compromise, such as the removal of American "Jupiter" missiles from Turkey or placing Cuba in an internationally neutral, or weapons free, zone. This second option would require that the Americans close Guantanamo Naval Base.

An appeal to the U.N. had the disadvantage that any American initiative could simply be vetoed by the Soviets, a probability made all

the more real by the fact that a Soviet held the chair position of the U.N. Security Council for October. While the diplomats argued, the missiles in Cuba would become operational. Approaching Krushchev, either directly or indirectly, would result in tendering an ultimatum that no great power would accept, and a summit would guarantee demands for American concessions. The end result would be that the Americans would have something less than when the crisis started, whereas the Soviets would, if nothing else, have gained international credibility and have improved its strategic nuclear imbalance. Offering to trade the Jupiter missiles in Turkey was a possibility, given that Kennedy had planned to remove them anyway. However, such a move during the crisis would likely confirm suspicions of American willingness to yield, as well as being interpreted by the Europeans that Kennedy might be willing to sacrifice its European interests if similarly pushed.

Course of action three proposed a secret approach to Castro by offering him the alternative of divorcing his relations with the Soviets or risk being toppled. The primary problem with this approach was that the missiles belonged to the Soviets, not Castro. Any resolution had to be elicited from Moscow.

Course of action four recommended an invasion of Cuba. This recommendation would have the effect of solving two primary issues with Cuba: it would result in removing the missiles from Cuba, and removing Castro from power. Although the American military had made preparations for an invasion of Cuba, it was to be used as an option of last resort. Launching an invasion on Cuba could result in American troops directly engaging nearly 20,000 Soviets soldiers on the island. This would not only threaten escalation to nuclear war, but also prompt a Soviet response to take Berlin.

Course of action five called for a surgical airstrike on the missile sites. Such a move would serve to remove the missiles and clearly demonstrate American resolve to the world community. This action could be followed up by increased surveillance to watch for a repeat move by the Soviets, and a call for a summit where the United States could deal from a position of strength. However, this course of action produced several unacceptable complications. First, the Air Force could not guarantee that all the missiles would be destroyed in a surgical strike. A massive attack consisting of over 500 sorties would be required to destroy the missiles.[16] Unfortunately, the missiles could be launched during such an operation and the Cubans/Soviets could respond with airstrikes on Guantanamo. The strikes would also likely kill many Soviets troops stationed in Cuba, which would draw international condemnation and lead to nuclear confrontation. Finally, a massive airstrike could topple Castro and would require an invasion with all the attendant hazards of course of action four.

Course of action six called for a naval blockade. Kennedy eventually decided in favor this option; however, it was not without its drawbacks. The use of the term "blockade" in itself could be defined as an act of war, might be considered illegal by the U.N., and would deny traditional freedom of the seas required by regional allies. The Soviets could respond with a similar blockade of Berlin. Also, a naval blockade raised the possibility that Soviet ships would not stop for inspection, forcing the United States to fire the first shot, thereby eliciting retaliation and escalation. Finally, a blockade could not directly address the problem at hand: the removal of missiles already on the island.

In spite of these drawbacks, a blockade had several comparative advantages over other courses of action. First, a blockade steered a

middle course between inaction and attack, demonstrating American firmness while reducing the potential of unacceptable escalation resulting from a strike or invasion. Second, it placed the burden of choice on Krushchev, forcing him to decide to escalate or backdown. Third, A blockade permitted the United States, by flexing its conventional military muscle, to exploit the threat of potential subsequent non-nuclear options, where the it enjoyed significant superiority. Fourth, no possible military confrontation could be more acceptable to Washington than a naval confrontation in the Caribbean. This was truly a strategic naval maneuver decision. It offered Kennedy the opportunity to gain the initiative by effectively turning the tables on Krushchev. It forced Krushchev into the position he had hoped to place Kennedy. Krushchev was now forced with a number of options, any one of which would benefit the Americans. As will be discussed, American naval power was incontestably strong in this region for several reasons, none the least of which was the geographic locale of its major naval bases to the crisis area.

Some of the drawbacks to the use of a blockade were able to be minimized, such as declaring the American response a quarantine, rather than a war-indicating blockade. This also alleviated concerns of regional allies over freedom of navigation through the area. Kennedy chose a blockade because it effectively demonstrated American resolve, was least escalatory and offered the Soviets a chance to back away from confrontation. In terms of maneuver, Kennedy used the best asset available to him, to target the greatest weakness of the Soviets.

In maneuver-analysis, it could be argued that the American center of gravity was its geographic proximity to the crisis. This included all of the attendant advantages of internal lines of communications and the ability to rapidly respond, or adjust, to

evolving events. The strength of geographic proximity would greatly benefit American land and air forces by simplifying logistic considerations and reducing reaction time. However, as previously discussed, air and land force courses of action would likely produce such highly undesirable results as to make these forces largely impotent. The U.S. Army, Marine Corps and Air Force's role in the crisis was to remain largely as threat, not action, forces. Likewise, diplomatic options to the crisis would only serve to embolden Krushchev to undertake additional gambles. This clearly left the U.S. Navy as the force of choice for the crisis. The U.S. Navy's ability to decisively act was not limited by undesirable ramifications to the degree of other services. Through the U.S. Navy, Kennedy demonstrated American resolve. Most important of all, the use of the U.S. Navy allowed Kennedy to gain the initiative.

That the U.S. Navy was the decisive force during the crisis was made even more apparent when considering its opponent, the Soviet Navy. The Soviet Navy provided little more than minor support during World War Two. Despite this, Joseph Stalin believed that a strong navy was vital to the Soviet Union's post-war role as a world power and gave his navy high priority. Under Stalin's plan, the Soviet ship building industry rose to a level that permitted the construction on battleships, cruisers and submarines. Even aircraft carriers were planned. However, Stalin died in 1953, and so with him died the Soviet's blue-water navy. Under Stalin's successor, Nikita Krushchev, most ship building plans were cutback, or canceled outright. According to Cracknell, Krushchev, in place of an ocean-going fleet, ordered a missile-armed navy that consisted of small craft and submarines that could defend the Soviet coastline from Western aggression.[17] During the 1950's the Soviet Navy developed missile-carrying destroyers and submarines to counter American

aircraft carriers while under protection from Soviet land-based aircraft. The Soviet Navy was to gain approval for construction of larger missile-carrying ships in the late 1950's; however, these would not be available during the Cuban Missile Crisis. Concerning the Soviet Navy's participation during the crisis, Donald Mitchell claims that that "it was immediately obvious that the Russians, operating in an unfamiliar area, suffered from a great shortage of usable forces."[18] The Soviets managed to send only six submarines to the Caribbean area in response to the crisis. According to Mitchell, these units were easily tracked and could have been easily destroyed by American anti-submarine forces.[19]

Lacking an adequate navy, the Soviets drew their strength during the crisis from the land forces, including the nuclear missiles, already stationed in Cuba. The strength of these Soviet forces resided in the American's inability to directly attack them without risking a nuclear confrontation. The Soviets also retained a strategic nuclear deterrent against American military moves against Cuba. These Soviet strengths severely limited Kennedy's choices of possible responses. The weakness of the Soviet's was in the prohibitive distance between its nearest base of operations and Cuba, and its lack of a blue-water navy. The Soviet's primary means of supplying and/or reinforcing its units in Cuba was by sea. Although the Soviets had a strong merchant marine, as previously discussed, the Soviet Navy was not prepared to protect its sea lines of communication with Cuba. Thus, the major weakness to Krushchev's initiative to place nuclear missiles in Cuba was his inability to secure the means to resupply or reinforce his forces on the island. This Soviet weakness fell prey to America's strength.

The argument against a blockade was that it could not directly address the missiles that were already on the island. However,

Kennedy's decision to adopt the blockade unwittingly directly targeted what was probably the Soviet's real reason to place missiles in Cuba. As previously related, Kennedy probably believed that the purpose for placing missiles in Cuba was to expose a lack of American resolve to the international community. However, it was shown that much more likely reason for the Soviet move was to approach nuclear strategic strike parity with the Americans. Kennedy chose to implement a blockade because it provided not only the most the most flexible option, but also because it provided the firmest response short of directly threatening nuclear war. It would also allow Krushchev the option to back away more gracefully. Viewing Kennedy's decision from the Soviet point of view, the blockade effectively made its long term presence on Cuba untenable.

In terms of maneuver, Kennedy's decision to use the blockade also served to shift the initiative in favor of the Americans. By instigating the crisis, Krushchev held the initiative at the outset. Krushchev kept Kennedy from acting by publicly and diplomatically maintaining that he did not intend to place offensive missiles in Cuba. By camouflaging their move, the Soviets effectively denied the Americans the opportunity to take the initiative by intercepting the missiles being transported on the high seas. The fact that Soviet intentions were revealed only after the missiles were in place served to maintain the initiative. This occurred because Kennedy was forced to react from the outset. As previously discussed, the Soviets stood to gain by various American reactions. If the Americans did nothing, the Soviets would have greatly improved their first strike capability while damaging American international credibility. The Americans could also have over-reacted by an airstrike or invasion which would have been condemned by the international community. It could also have triggered aggressive Soviet actions elsewhere, such as Berlin. The primary thrust of the

Soviet initiative was that it forced Kennedy into the position of potentially reacting badly. Kennedy effectively turned the tables on Krushchev by choosing to respond with a blockade. The effect was to switch the initiative to the Americans favor, while forcing Krushchev into the position of potentially reacting badly.

Cuban Missile Crisis Operational Level Maneuver

This section will study the U.S. Navy's conduct during the crisis including command organization, forces available and the plan for the quarantine. It will also address how the U.S. Navy used these forces to implement Kennedy's vision of strategic naval maneuver at the operational level.

Kennedy announced on 22 October, 1962 that a naval quarantine of Cuba was to be implemented on 24 October. In response to the President's directive, the Joint Chiefs of Staff (JCS) directed on 23 October that Commander in Chief, Atlantic (CINCLANT) establish a blockade of Cuba. Subsequent JCS directives modified these orders to rename the blockade as a quarantine, because the term blockade was interpreted as an act of war under international law.[20]

By the third week of October, CINCLANT, Admiral Robert Dennison, had been anticipating a blockade action against Cuba and took several actions in response. On 19 October, Dennison disestablished Commander Joint Task Force (CJTF) 122 for Cuban operations, whose functions passed to his own command. The result was to remove a step in the chain of command while simultaneously bringing the former CJTF 122 Army Component Commander and Air Force Component Commander, along with their respective forces, directly under his control. The CINCLANT unified command was merged with CINCLANT Fleet (CINCLANTFLT), making Dennison both the unified commander and naval component commander for the theater.

U.S. Navy operations in support of the Cuban missile crisis consisted primarily of six different forces. On 21 October, Dennison designated Commander Second Fleet, Admiral Alfred Ward, as Commander Task Force (CTF) 136, Quarantine Force Commander, to setup up a surface screening force with the task of identifying the cargo of suspect vessels. CTF 136 was the principle force responsible for enforcing the quarantine, with other forces effectively supporting it. CTF 136 consisted of one aircraft carrier (ESSEX), two cruisers, 24 destroyers of various types and two support ships.[21]

CINCLANTFLT designated CTF 135 as the Attack Carrier Striking Force on 11 October. It consisted of two aircraft carriers (Enterprise and Independence), two destroyer squadrons, two support ships and one Marine Air Group (MAG) based at Roosevelt Roads, Puerto Rico. Formed before Soviet offensive missiles were confirmed in Cuba, CTF 135's initial purpose was to reduce American reaction time against Cuba if an airstrike was ordered. However, as the crisis progressed, CINCLANT tasked CTF 135 to assist in suspect ship searches and to provide close air support to Guantanamo Bay Naval Base in addition to airstrike responsibilities.[22]

As early as 13 October, intelligence alerted CINCLANTFLT to the strong possibility of Soviet submarine activity in the Western Atlantic and Caribbean. Anti-submarine forces that had been operating in a normal routine through early October, changed their operating area and increased the pace of their operations to meet the threat. A total of 17 American land-based anti-submarine (ASW)aircraft, ten American submarines and a Canadian ASW force participated conducting ASW barrier operations. The Canadian ASW force, that included an ASW aircraft carrier, proved indispensable in providing adequate ASW coverage in the Western Atlantic.[23]

On 15 October, Amphibious Force Atlantic conducted normal peacetime operations. One U.S. Marine Corps (USMC) Battalion Landing Team (BLT) was in the Caribbean, while another was just returning to Norfolk, Virginia after a normal Mediterranean deployment. An amphibious brigade landing exercise that included three BLT's was scheduled to take place off Puerto Rico the third week of October. As a result, a significant amphibious force was already enroute to the Caribbean. By 20 October, American amphibious force posture had been re-oriented toward combat preparedness and scheduled training exercises had been canceled. On 25 October, the JCS ordered a Marine Expeditionary Brigade (MEB) consisting of 21 ships and 11,000 Marines, to proceed from Pacific Command to the Caribbean. By 8 November, American amphibious forces in the Caribbean, consisting of 58 amphibious ships and over 40,000 Marines, were prepared for combat operations against Cuba.[24]

The Organization of American States (OAS) unanimously backed the American quarantine and provided ship and support facilities to assist in the operation. OAS nations contributing ships to the quarantine preferred to operate under a combined rather than a United States command, although they did not object to being placed under a U.S. Navy commander. Correspondingly, Dennison designated Commander South Atlantic (COMSOLANT) to command the Combined Latin American Task Force 137 (CTF 137). Major contributors to CTF 137 were the United States and Argentina. The Dominican Republic, Guatemala and Venezuela offered units, but failed to have them ready before the quarantine operation had ended. CTF 137 operated in the various passages between the Greater and Lesser Antilles island chain between the Dominican Republic and the mainland of Venezuela.[25]

In addition to the quarantine operations, the JCS directed that several contingency operations be prepared. OPLAN 312 provided for a rapid response of American airpower against Cuba should the need arise. OPLAN 312 included U.S. Air Force and Navy assets and involved three levels of response, ranging from specific targeting to large-scale strikes against Cuba. OPLAN 314 called for a simultaneous amphibious and airborne assault in the Havana area by a Joint Task Force within 18 days of order to execute. CINCLANT developed a third OPLAN, OPLAN 316, but was largely similar to OPLAN 314, except for a shorter notice-to-execution time. CINCLANT/JCS envisioned that OPLAN 314 would follow execution of OPLAN 312 and would lead to the overthrow of the Castro regime. These OPLAN's had the effect of adding teeth to the quarantine operation by clearly signaling to Krushchev, through the clearly evident massive preparation efforts, that the Americans were prepared to use force if the quarantine was ignored.

CTF 136 operated along an arc, called WALNUT, that extended 500 miles from Cape Maysi (eastern most Cuba) and reached from a point approximately midway between Bermuda and the Florida coast to just north of Puerto Rico (see Figure 3). According to Ward, this distance of 500 miles was chosen because it was beyond the range of Cuba-based MIG aircraft and also allowed American leadership to decide which ships to stop and board.[26] Twelve ship-keeping stations were located along this arc, with 47 miles between each station.

Although CTF 136's tasking was to verify suspect ship cargo by boarding and searching suspect ships if necessary, the task of locating and identifying ships suspected of carrying contraband involved a much larger effort. A average 46 ships, 240 aircraft and over 30,000 personnel were directly engaged in the effort to locate ships inbound for, and outbound from, Cuba. Naval Air Patrol Squadrons and the Anti-

Submarine Warfare Forces Atlantic Fleet provided aircraft to search the ocean approaches to Cuba. The Air Force also assisted in search efforts by contributing over ten aircraft to search areas west of the Azores. To search this area of approximately 4.5 million square miles of ocean, U.S. Navy and Air Force aircraft flew from such widely separated points as Roosevelt Roads, Guantanamo Bay, Bermuda, the Azores, Newfoundland, Key West and Norfolk. These aircraft were critical to the effectiveness of the quarantine, spotting over 200 ships of immediate interest to the quarantine operation. By contrast, quarantine ships accounted for just over 50 sightings. The majority of suspect ships intercepted were first sighted by aircraft. CINCLANT then vectored Quarantine Force ships for possible boarding and searching.[27]

The actual quarantine operations can be divided into three phases. During the first phase, between 24 October and 4 November, many suspicious ships bound for Cuba turned back before reaching WALNUT. Other Soviet ships with non-suspicious cargo delayed enroute seemingly to await guidance from Moscow. Gradually, these ships proceeded to Cuba. During phase two, 5-11 November, quarantine operations consisted primarily of close, but not onboard, inspection. It was during this phase that, through coordination with the United Nations, ships carrying the offensive missiles back to the Soviet Union were inspected. Phase three lasted between 11 November, to the end of quarantine operations on 21 November, when CTF 136 was dissolved. During this phase, CINCLANT assets trailed or observed closely suspect shipping, but no ships were detected returning offensive weapons to the Soviet Union. Only one ship, the Lebanese freighter Marucia, was actually stopped and boarded during the entire quarantine operation. Marucia's cargo was found in order and permitted to continue to Cuba.[28]

The Cuban Missile Crisis ended with the Soviets withdrawing their nuclear missiles, the Americans removing their nuclear missiles from Turkey and promising not to invade Cuba. A Soviet-American also agreement provided for U-2 reconnaissance flights over Cuba to monitor Soviet activities on the island.[29]

Conclusion

In this case study, we analyzed naval maneuver in a non-combat role. Although the implementation of a naval blockade could certainly have led to hostilities, it resulted in an American victory without a shot being fired. Napoleon once said of his Austrian campaign in 1805, "I have defeated the enemy merely by marching."[30] Kennedy's strategic application of naval maneuver had just this effect on the Soviets.

Effective use of maneuver in a non-combat role can be claimed to be the epitome of warfare. It requires adroit planning and effective execution. It requires exacting analysis of respective centers of gravity and enemy weaknesses. It also requires maintaining the initiative by taking forceful actions based on good intelligence of enemy movements. Defeating the enemy, or achieving desired goals, through non-combat maneuver is the ultimate in efficient use of force. Such maneuver maximizes the use of a forces without exposing it to attrition. The result is that combat forces are available for further use as required. Sun Tzu clearly described non-combat maneuver as the ultimate form of warfare when he claimed that "to subdue the enemy without fighting is the acme of skill."[31]

Kennedy deliberately embarked on the path of non-combat maneuver. The advent of nuclear weapons and the possibility of mutual annihilation forced him to adopt a strategy that would be least confrontational. Yet, to not oppose Krushchev's initiative and accept nuclear missiles at America's doorstep would have been nearly as

catastrophic for the United States. Kennedy needed to respond with an action that demonstrated American resolve, while simultaneously providing room for both the Krushchev and the United States to strategically maneuver. Use of diplomacy would have sent an unacceptable signal of American weakness to the Soviets, and the international community, and would ultimately have led to American concessions. Use of the U.S. Army, Marines or Air Force would have required direct application of combat power and would have directly risked nuclear confrontation. Thus Kennedy arrived at the decision of using the U.S. Navy, not by direct choice, but by process of elimination. Implementing a naval blockade was not directly confrontational. Although a blockade action could escalate if Soviet ships failed to stop for cargo verification, it had the effect of maintaining possible military responses to conventional means rather than nuclear. A naval blockade also clearly demonstrated American resolve.

As previously discussed, the choice of a naval blockade was appealing simply based on the relative strengths and weaknesses of the antagonists, as well as ramifications of use of land and air forces. The mere existence of Soviet troops in Cuba effectively neutralized the majority of American military might. This was largely because fear of Krushchev's response to Soviet casualties, resulting from an airstrike or invasion, made American air and land forces largely impotent. The U.S. Navy, on the other hand, did not suffer from these limitations when used as a blockading force. Furthermore, the U.S. Navy enjoyed the position of clearly out-classing the Soviets on the high seas. Because Krushchev had largely created coastal defense navy, he had no means to militarily oppose the American blockade. At best, Krushchev had at his disposal a handful of submarines to threaten American warships.

However, these proved to be woefully inadequate to even this task. Therefore, Kennedy's choice of a naval maneuver clearly operated against the Soviet's greatest weakness.

As previously discussed, Kennedy may have chosen his course of action based on the wrong assumption, with respect to Krushchev's motivation for placing missiles in Cuba. According to Allison, Kennedy believed that Krushchev was challenging American international credibility, whereas his likely true motivation was to improve the Soviet's nuclear strategic missile imbalance with respect to the United States.[32] Fortunately for Kennedy, his course of action effectively addressed both possible motivations. Kennedy's focus remained on removal of the missiles from Cuba, which would eliminate whatever advantages Krushchev hoped to gain. Removal of the missiles from Cuba would not only thwart both of Krushchev's motivations, it would serve to actually bolster American international credibility, as well as highlight the Soviet's strategic nuclear inferiority.

Kennedy's clear and narrow focus greatly contributed to the success of the blockade. According to Cunningham, Kennedy, through Secretary of Defense McNamara, made it clear to operational commanders that the blockade was a military action with a political objective.[33] This focus improved the efficiency of all of the American armed forces efforts, not just those of the U.S. Navy. According to Dennison, the entire operation received heavy guidance directly from Washington.[34] As a result, unity of effort was retained through the entire operation. There was no ambiguity at the operational level that could lead to a split focus on the objective.

Kennedy's focus clearly identified Task Force 136 as the main effort, with all other forces, regardless of service, as the supporting effort. The immense size of the quarantine area required a substantial

American military effort. Although the U.S. Navy was the primary organization responsible for the enforcing the quarantine, it was not able to adequately cover such as large area without the assistance of other services and nations. The result was a large and complex command structure that operated under Dennison as CINCLANT. Kennedy's clear strategic focus, interpreted through McNamara and Dennison, assisted in the optimal use of quarantine forces. Such a clearly defined focus, from strategic through to tactical, is necessary for naval maneuver. This is particularly true with respect to strategic naval maneuver, where the purpose of military operational and tactical operations are to meet a political objective.

The size of the U.S. Navy's response to the crisis night appear to favor an argument for mass, rather than maneuver. However, the overwhelming majority of forces used, including reconnaissance efforts and contingency strike forces, were strictly supporting efforts. The primary purpose, or effect, of these forces focused on supporting the 27 ships of the Quarantine Force (CTF 136). The size of these forces was less significant when viewed from the perspective of maneuver. Ultimately, it was just the 27 quarantine force ships, stationed along the Walnut Line, that thwarted Krushchev's initiative.

The primary effect of Kennedy's decision to implement a blockade gave him the key to the crisis. This key was seizing the initiative from Krushchev, which effectively undermined his entire strategy for placing the missiles in Cuba. Secretary of State Dean Rusk stated that application of the quarantine came as a surprise to Krushchev, "that [his] timing was thrown off and that for a period of time [his] contingencies were thrown out of gear."[35] Regardless of Krushchev's motives for placing missiles in Cuba, it was certainly an attempt to improve the Soviet's position based on American reactions to the

missiles. Unfortunately for the Soviets, the quarantine forced Krushchev, not Kennedy, to decide whether to escalate or backdown. Krushchev lost the ability to drive events from 22 October onward, when Kennedy announced the blockade. Lack of initiative produced an outcome highly unfavorable to the Soviets, and Krushchev in particular. The inability of the Soviets to project power outside European theater was made clear to the world and the withdrawal of its missiles from Cuba was a significant blow to Soviet credibility to the international community. Krushchev's debacle during the crisis was a key factor in his subsequent political demise and fall from power.

A key asset successfully used by the Americans at the operational and strategic level during the crisis was intelligence. Certainly American strategic-level intelligence failed to notify American national leadership of Soviet intentions until the missiles were already placed in Cuba. This was greatly assisted by Soviet diplomatic efforts that successfully shrouded Krushchev's plan. Rusk stated that initial solid evidence of Soviet intentions was not available until mid-October. This initial evidence took the form of aerial reconnaissance photographs of ballistic missile sites under construction in Cuba, then photos of the missiles themselves on 15 October. Rusk maintained that public confirmation of the missiles in Cuba had to be simultaneously accompanied by America's course of action to the threat.[36] Kennedy's decision process effectively delayed implementation of the blockade until 24 October. However, strategic intelligence was able to detect the missiles before they were operational. The timing of this confirmation was probably earlier than Krushchev had intended. He would have had a much stronger bargaining position had he controlled operational missiles, rather than ones under construction. That strategic-level intelligence confirmed the missiles

before they were ready was the initial step in throwing off Krushchev's timing. Kennedy's blockade succeeded in presenting Krushchev with another unexpected event that certainly undermined his plans for the missiles deployment. Without such intelligence, Kennedy would have been out-maneuvered at a future conference table, when handed a fait accompli by Krushchev in the form of operational nuclear missiles in Cuba.

American operational-level intelligence was critical to the success of the quarantine operation. Even though the U.S. Navy had recently been significantly strengthened as a result of the Korean War, it still lacked sufficient surface ships to adequately enforce a quarantine the size required to meet Kennedy's objectives. Combined assets, primarily in the form of Canadian and U.S. Navy and Air Force aircraft, served to provide the operational intelligence that covered over 4.5 millions square nautical miles of ocean. Of the 250 suspect ships tracked by CINCLANT during the quarantine, aircraft accounted for locating over 80 percent of them. These aircraft also assisted in vectoring U.S. Navy ships to intercept Soviet merchantmen that were returning the missiles to the Soviet Union. Though the U.N. had arranged for predetermined check points for the Soviet ships, many of the missile-haulers chose to ignore such directives. Aircraft were again instrumental in locating these ships and vectoring Task Force 136 ships to intercept them for verification.[37]

American strategic and operational-level intelligence was critical to naval maneuver during the crisis. Intelligence is necessary for a commander to act upon the enemy; however, good intelligence is critical to enable a commander to consistently force the enemy to react. Strategic-level intelligence first succeeded in spoiling Krushchev's opportunity for a fait accompli. Operational intelligence made the American quarantine work. Without such intelligence, particularly at

the operational level, Soviet ships would have been able to penetrate the quarantine. Failure of the quarantine would have resulted in a loss of American military prestige in its own backyard. It would also have forced Kennedy to either backdown, or adopt a more confrontational, and therefore dangerous, course of action.

Opponents of Kennedy's choice of a blockade maintained that his course of action failed to address the primary problem at hand: the missiles on Cuba. Certainly the quarantine itself could only stop additional missiles from being delivered in Cuba. However, Kennedy's naval maneuver involved more than just the Quarantine Force (CTF 136). As previously discussed, several contingencies (primarily OPLANS 312, 314, 316) were developed in response to the crisis. Preparations for the contingencies, which included plans for airstrikes an and invasion, were enormous and could not possibly have been missed by the Soviets. These contingencies effectively functioned as supporting efforts by giving Krushchev the clear signal that Kennedy was prepared to backup the quarantine with force if necessary. According to Cunningham, the blockade was given teeth through the existence of various strike forces, including the Marine invasion force (Task Force 128), carrier strike force (CTF 135), and the threat of an airstrike.[38] The effect of this threat was made credible through application of the quarantine because according to Rusk, Kennedy made it clear that the quarantine was only the first step in a progression of American responses that would increase in use of force.[39] Kennedy's application of non-combat naval maneuver in the form of a quarantine permitted Krushchev to back out as gracefully as possible, without direct confrontation.

In conclusion, we observed various key elements of naval maneuver during the Cuban Missile Crisis. These elements included initiative, surprise, intelligence, unity of effort, and a clear, single

objective. American efforts to focus its strength against the Soviet's critical vulnerability was clearly evident. A key element of non-combat naval maneuver not observed in the combat maneuver was the requirement for credibility. In order to defeat the enemy merely by marching, the enemy has to believe that its opponent intends to move decisively. According to Captain Kidd, then Executive Assistant to the Chief of Naval Operations, "whatever we did [in response to missiles in Cuba], it had to be credible to the Soviets."[40] The unique nature of non-combat naval maneuver requires that it be credible. The fact must be impressed upon the adversary that the force conducting the maneuver has the power to enforce its actions, and that force can be applied if conditions are not met.

It is interesting to note that the Soviets seemed to have learned a large lesson with respect to American naval maneuver during the crisis. It has already been discussed that the Soviets severely suffered from lack of a blue-water navy during the crisis. Although the Soviets had enacted plans to build ocean-going ships for its navy prior to 1962, these plans were insufficient to build a credible blue-water fleet. Peter Tsouras claims that the effect on the Soviet Navy as a result of the crisis, was to add emphasis to its existing building programs.[41] According to Cracknell, the lack of a blue-water navy to influence events frustrated the Kremlin in several incidents in the 1950's, including the Anglo-French invasion of the Suez in 1956 and the landing of U.S. Marines in Lebanon in 1958. The humiliation of the Cuban Missile Crisis seemed to be the final straw for the Soviet leadership. In 1963, the Soviet Navy began operating beyond its traditional coastal defensive areas. As an example of this radical change in policy, Moscow established a permanent Soviet naval presence in the Mediterranean by mid-1964.[42] This build-up indicates that the

Soviets sought to replace what Mitchell claims it lacked during the crisis: the ability to employ a graduated response through flexible use of naval power.[43] Clearly, the Soviet's recognized the value of naval maneuver for its role as a world power as a result of the Cuban Missile Crisis.

Endnotes

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CHAPTER SIX

CONCLUSION

This thesis was conducted as an inquiry into the historical use of maneuver by the U. S. Navy in a blue-water environment. Two case studies, the Battle of Midway and the Cuban Missile Crisis, were analyzed to elucidate naval maneuver in a combat and non-combat roles respectively. These case studies were also chosen to study naval maneuver at strategic and operational levels.

This thesis found naval maneuver as a method of warfare that presented the opportunity to, in the words of James Tritten, fight smarter through efficient use of assets.[1] This should not be interpreted to mean that non-maneuver warfare, namely attrition, is always a poorer choice. By claiming maneuver is to fight smarter, Tritten meant that maneuver is a viable option to attrition warfare. Maneuver was the method of choice of Castex, who was forced to operate under the constraints a navy hopelessly outclassed by the Royal Navy. Maneuver was the appropriate means for Castex because force security was most critical. Likewise, Nimitz's use of operational-level maneuver at Midway was a logical choice for a situation that required a maximum payoff, while simultaneously minimizing risk to precious fleet assets.

This study revealed several characteristics that are indispensable to naval maneuver. The first characteristic of naval maneuver is the requirement to identify an opponent's center of gravity. Different centers of gravity can exist at each level of warfare: strategic, operational and tactical. Identifying an enemy's center of

gravity is a critical element for maneuver, in that it identifies a focus of effort. The primary goal of this effort should be to incapacitate an enemy, rather than attrition style warfare that emphasizes destroying the enemy's physical means of fighting. Focusing efforts at an opponent's center of gravity results in the most efficient way to neutralize the enemy. Concentrating assets on a center of gravity naturally gravitates against attrition, which tends to apply assets against an opponent with less discretion. American and Japanese aircraft carriers are examples of operational centers of gravity highlighted in the Battle of Midway case study. It was shown that, through maneuver, the Americans better focused their assets against the Japanese center of gravity. During the Cuban Missile Crisis, the Soviet strategic center of gravity was its armed forces in Cuba, for the Americans it was the U.S. Navy.

The next critical characteristic in naval maneuver was the requirement to develop a course of action that emphasizes establishing an objective and focusing unity of effort against an opponent's center of gravity. At Midway, respective centers of gravity could be directly engaged. However, in the case of the Cuban Missile Crisis, Kennedy could not directly attack the Soviet's center of gravity without threatening nuclear war. Kennedy's next best option was to indirectly attack the Soviet's center of gravity through the naval blockade. This indicates that it is also often not possible, nor desirable, to focus all efforts directly against the center of gravity. Therefore, the main effort must be clearly designated. Correspondingly, many other efforts, although critical, must be clearly identified as secondary efforts. The critical characteristic that binds them all is a unity of effort against a clearly defined objective.

From the perspective of naval maneuver, efforts that are not directly or indirectly focused on the objective, as the main or supporting efforts, are a waste of assets. Yamamoto's overly elaborate plan for Midway directed units to conduct a deception operation in the Aleutians and dispersed invaluable aircraft carriers across several task forces. These forces did little to support Nagumo's effort against the American carriers. Furthermore, Yamamoto's strategy left Nagumo with the split objectives of striking Midway and attacking the American carriers. The lack of a single clear objective and insufficient unity of effort resulted in Yamamoto's loss of superiority of mass and also confusion among his commanders. Conversely, the single American objective of the Japanese carriers, was made clearly evident in Nimitz's willingness to sacrifice Midway to allow the Japanese to reveal their location. Focusing resources on clearly defined objectives is a critical element of maneuver. Clear and unambiguous objectives made the American's maneuver effective.

Kennedy's naval blockade of Cuba did not suffer from Yamamoto's lack of focus and unity of effort. Kennedy's Quarantine Force (CTF 136) was clearly identified as the main effort, with all other efforts, including reconnaissance and strike forces, functioning as support forces. Kennedy clearly established the objective, which was emphasized through the operational level, and down to the tactical. For successful naval maneuver, there should be a single clear objective, with emphasis on an effective unity of effort toward that objective. Although it can be argued that attrition also has an objective and unity of effort, the focus tends to be on wearing the enemy down by brute force-on-force engagements. This focus is inherently vague and seriously diminishes the potential of unity of effort.

Maneuver is not possible without accurate and timely intelligence, as well as the ability to maintain the initiative. Although both case studies highlighted offensive maneuver, maneuver can be used in both offensive and defensive operations. The premise of maneuver is that the opponent be acted upon, forcing him to constantly react. Consistently forcing the enemy to react ensures that he cannot execute his plan, confuses him, and directs the course of events toward a desired outcome. A prerequisite for maintaining the initiative is intelligence on the enemy's location and intentions. The Americans clearly demonstrated the value of both initiative and intelligence at Midway, which set the conditions for their decisive successes. The operational intelligence of reconnaissance aircraft was also critical in the success of the Quarantine Force (CTF 136) during the Cuban Missile Crisis.

As discussed in Chapter three, Jomini emphasized identifying and maneuvering overwhelming mass against enemy decisive points as critical to successful warfighting. Classic Jominian decisive points included enemy flanks and supply lines. Consistent with Jomini, Yamamoto properly identified the American aircraft carriers as the decisive point; however, he failed to maximize his overwhelming superiority in mass to his advantage. Too much of Yamamoto's firepower was dispersed in his overly elaborate deception plan, invasion and war-at-sea engagements. Unlike Yamamoto, Kennedy executed his plan in classic Jominian style by applying superior force against Krushchev's vulnerable supply lines. Although Jomini's concept of maneuver considered only land combat, its application during the Cuban Missile Crisis produced the same effect of placing the enemy in a hopeless situation.

Mahan applied a modified version of Jomini to naval warfare. Mahan stressed the criticality of forward support naval bases and their

attendant lines of communication. He also extended Jomini's concept of use of overwhelming force against a decisive point by establishing the requirement for concentration, or mass, as a paramount concern. Mahan would probably have pointed out that Yamamoto failed because he broke the cardinal rule of never dividing the fleet. At the same time, Krushchev's failure in 1962 would have validated his concept of forward support bases and the vulnerability of lines of communication.

Nimitz's plan for maneuver at Midway would have been strongly endorsed by Castex, who would have been comfortable with Nimitz's position of the underdog. From Castex's perspective, Nimitz's plan was focused on a clear objective on which all available assets were focused. Consistent with Castex's concept of *manoeuvre*, Nimitz prioritized available assets. This included sacrificing Midway Island in exchange for placing the Japanese in a disadvantaged position. Nimitz optimized his advantage of intelligence to engage the Japanese under the best possible terms. Nimitz avoided what Castex claimed was a tendency to meet the enemy where he was found. This tendency often led to attrition-style engagements because it precluded the thought and planning necessary for maneuver warfare.

This thesis has focused on maneuver as a type of naval warfare; however, it is not always the optimum choice. Ted Atkinson claims that maneuver enthusiasts are prone to embrace all successful actions as examples of maneuver and portray attrition as the resort of the simple minded. He warns that the U.S. Navy should avoid falling prey to "the siren song of maneuver warfare".[2] Atkinson further maintains that the U.S. Army went through a period of over-embracing maneuver as the supreme style of warfare. He claims that the U.S. Navy will arrive at the Army's conclusion, that attrition and maneuver are optimally employed in varying doses applicable to a given situation.[3]

The two case studies in this thesis were used to highlight the use of maneuver; however, attrition warfare, while not instrumental, was certainly present in these engagements. The decimation of Torpedo Eight and several other squadrons at Midway was certainly attrition-style warfare. However this tactical attrition unquestionably supported maneuver-style warfare at the operational level. Kennedy's strategic level maneuver against the Soviets in 1962 ultimately boiled down to attrition-style superiority of mass at the tactical level. It has been argued in this thesis that Yamamoto's plan fell prey to American maneuver because he dispersed his fleet. In this respect, a more ideal strategy for Yamamoto would have been to mass his fleet and fight a straight forward battle of attrition at Midway. Such a massing of force would likely have overwhelmed the badly outnumbered Americans. This suggests that manuever and attrition can coexist at strategic and operational levels. The limited scope of this thesis prohibits exploration into this area; however, it is recommended as a subject for further research.

Clearly maneuver exists in a spectrum of warfare where maneuver and attrition, while at opposite ends, are not mutually exclusive or monolithic. However, as Atkinson points out, the U.S. Navy has not yet developed the concept of maneuver warfare into a workable doctrine.[4] Until this is achieved, the U.S. Navy must continue to study maneuver to allow it to mature to the level of understanding and acceptance of attrition warfare.

This inquiry has revealed that the U.S. Navy has historically used maneuver, but lack of written doctrine has precluded its formal adoption as a type of warfare. Emerging formal doctrine has recognized maneuver; however, controversy persists stemming from lack of understanding of the concept by the U.S. Navy. It was the intent of

this thesis to assist doctrinal development by increasing U.S. Navy officers' understanding of naval maneuver.

Areas for Further Study

As previously discussed, maneuver should be considered a tool for naval warfare, not a panacea. This thesis illustrated examples of successful naval maneuver at the strategic and operational levels. Topics for further study could address examples where maneuver failed to achieve positive results. Further study could also concentrate on examples where both maneuver and attrition were required to achieve victory, or where both sides used maneuver.

The American armed forces, and the U.S. Navy in particular, have increasingly been called upon to participate in Military Operations Other Than War (MOOTW). In this regard, the greatest asset that the U.S. Navy often brings to such a situation is its unique ability to rapidly assist from the sea. An area for further study would be how naval maneuver applies to MOOTW.

This thesis has focused on defining naval maneuver. To assist in elucidating this concept, maneuver was often contrasted with attrition. However, as previously discussed, maneuver and attrition often coexist. Further study in this area could address how maneuver and attrition are related, and how they can be mutually supportive.

This thesis has studied naval maneuver at the strategic and operational levels, leaving the tactical level unexplored. Wayne Hughes maintains that maneuver only exists at strategic and operational levels, with only attrition warfare occurring at the tactical level.[5] An area for future study would be to explore the validity of Hughes concept.

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[5]Hughes, 17.

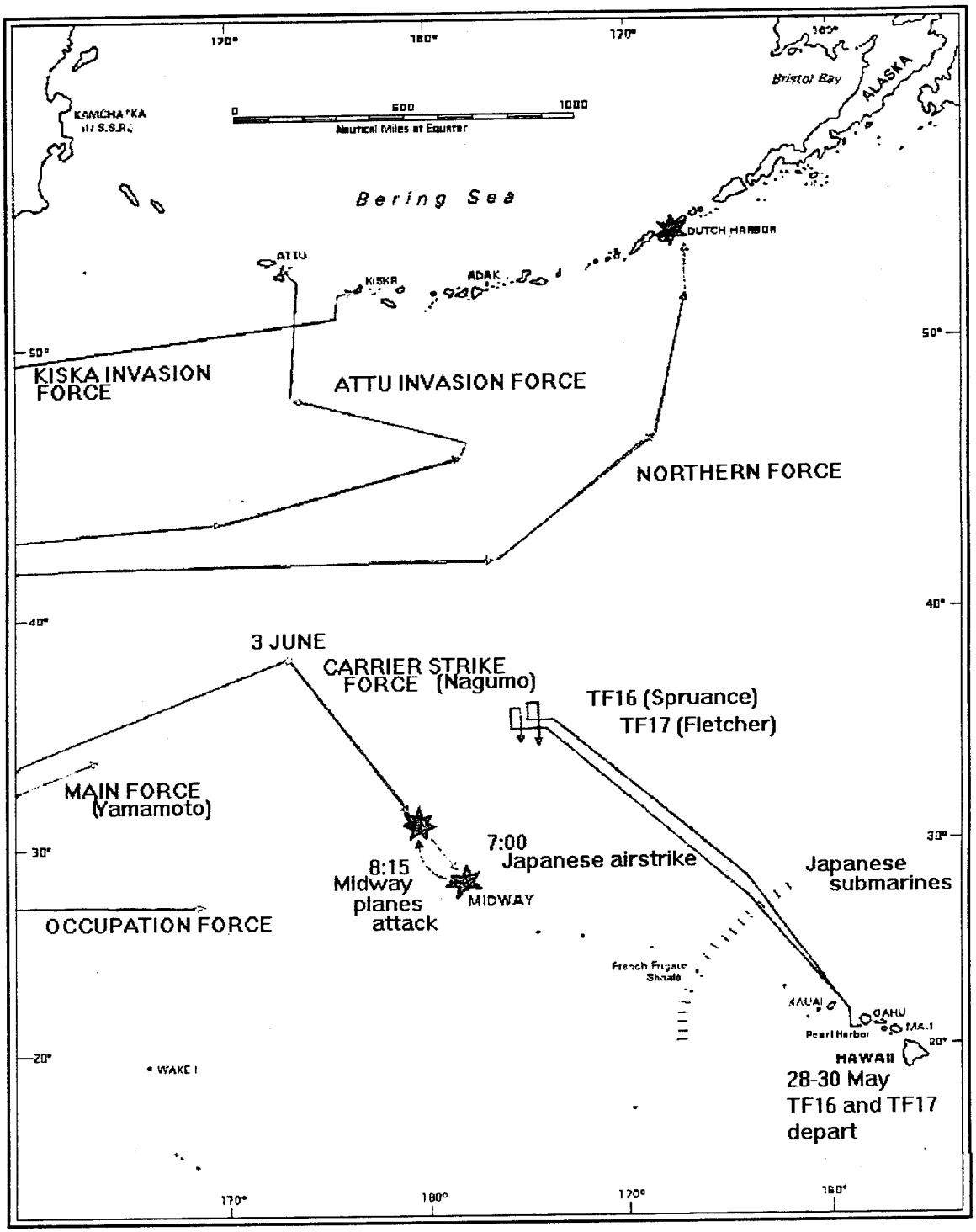

Figure 1. The Japanese attack on Midway, 4 June, 1942. Reprinted, by permission, from Craig L. Symonds, Historical Atlas of the U.S. Navy (Annapolis MD: Naval Institute Press, 1995), 149.

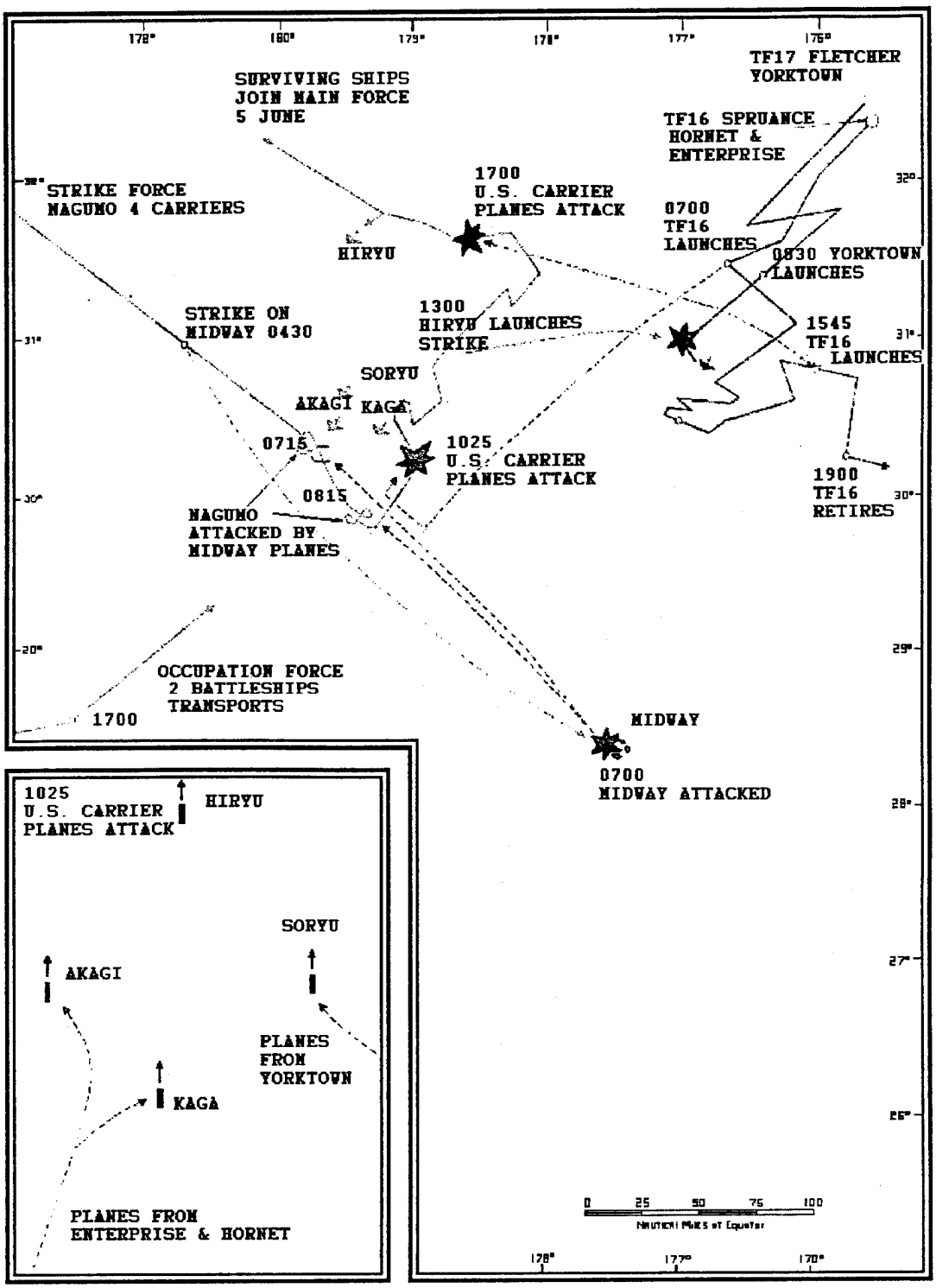

Figure 2. The American counterattack at Midway, 4 June, 1942. Reprinted, by permission, from Craig Symonds, Historical Atlas of the U.S. (Annapolis MD: Naval Institute Press, 1995), 151.

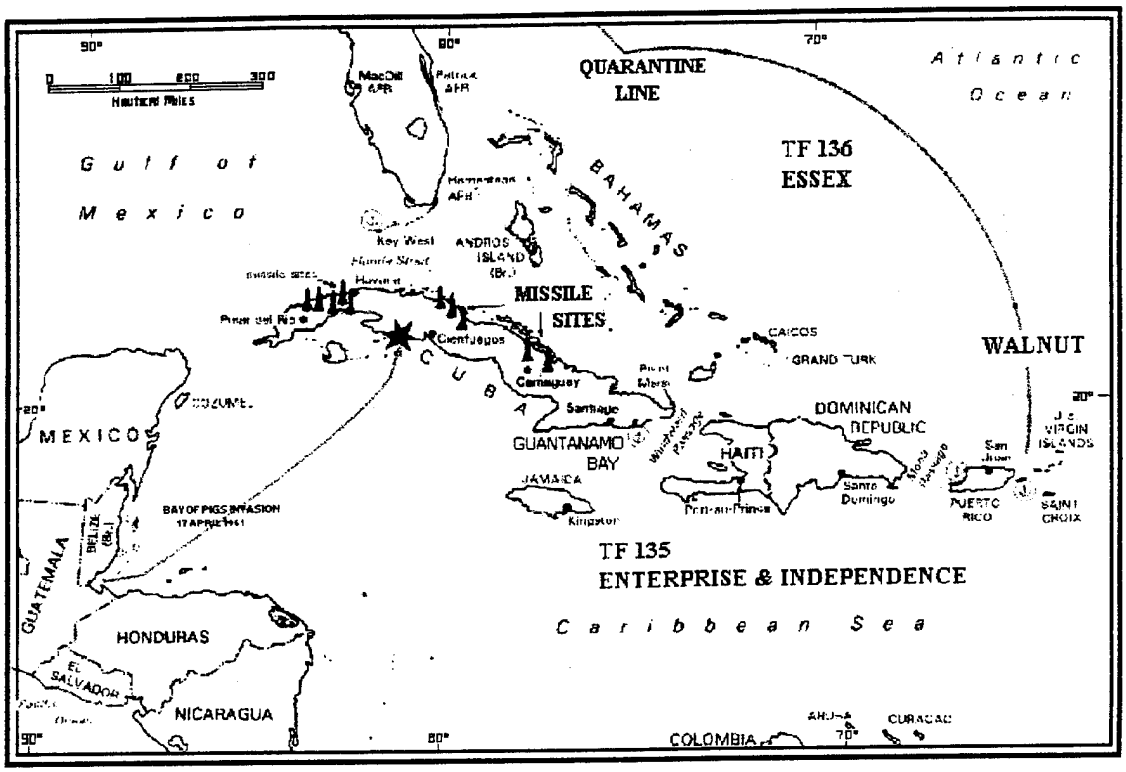

Figure 3. The Cuban Missile Crisis, 24 October, 1962. Reprinted, by permission, from Craig L. Symonds, Historical Atlas of the U.S. Navy (Annapolis MD: Naval Institute Press, 1995), 205.

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